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CAMERA CRAFT

A Photographic Monthly

Edited by FAYETTE J. CLUTE

VOLUME XXII

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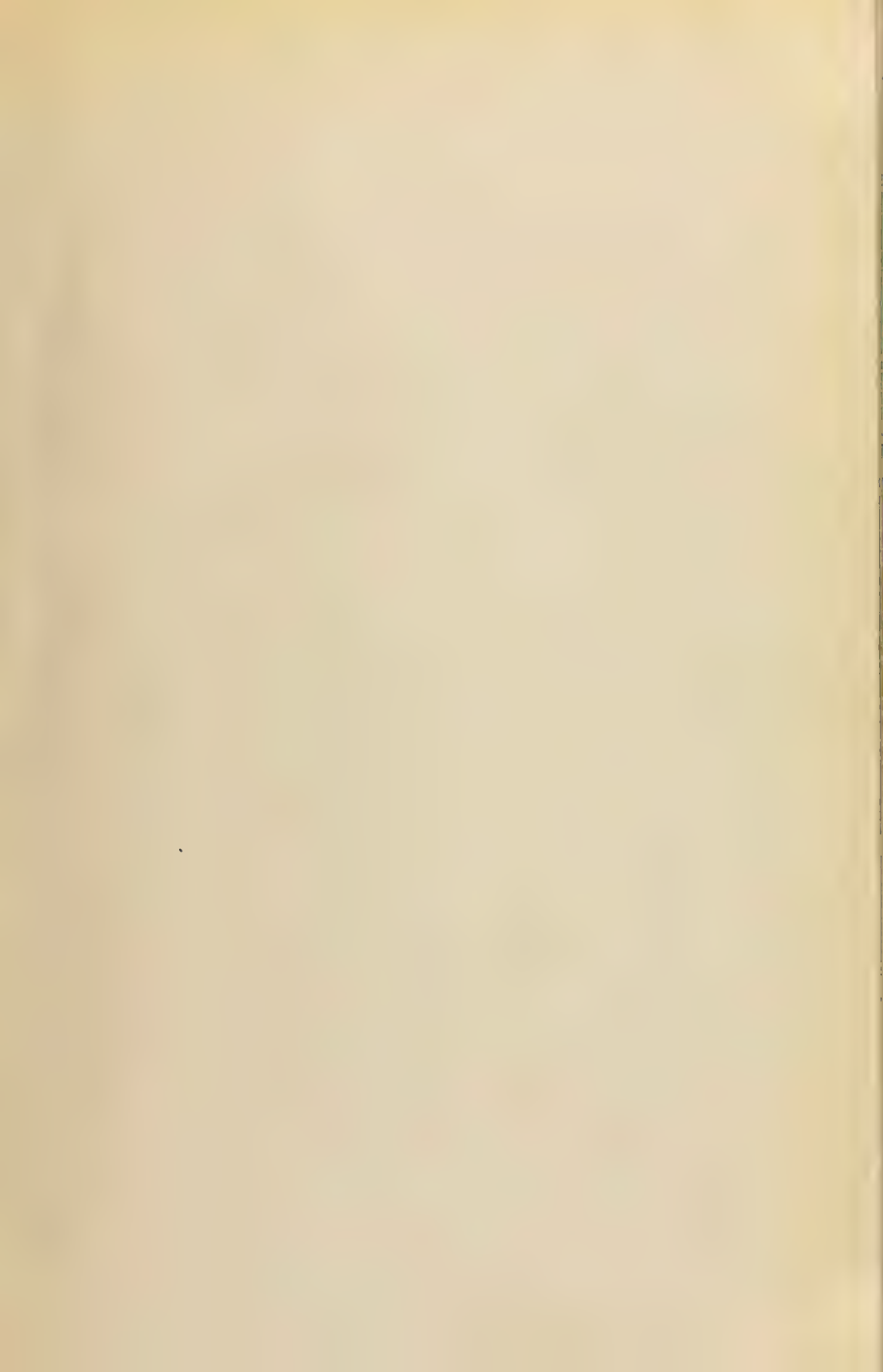


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THE ROAD TO THE SEA
By WALTER A. SCOTT



CAMERA



CRAFT



A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

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No. 1

A Country Dark-Room

By S. J. Nevill



With Illustrations by the Author

Of the many articles describing the arrangement of a dark-room or photolaboratory, which I have lately seen, not a single one has been written with the isolated worker in mind, the worker who is out of reach of running water, electric light, and a good, accommodating dealer. As I have evolved a really comfortable laboratory, twenty miles from the first two and five hundred from the last, I propose to give a description of it, together with an account of some of my former tribulations and lonely ploddings, far from the haunts of brother amateurs.

When Bryant wrote his eulogy of the prairies:

“These are the gardens of the desert, these

The unshorn fields, boundless and beautiful,”

amateur photography was in its infancy and there were no exasperated camera fiends to club him over the head. It was amid the criss-cross tracks of the buffalo and the Hudson trader that I began my career, as a boy of sixteen, with a Brownie camera and a developing machine. Had it not been for the machine, I would early have been discouraged; for, isolated as I was, I had never seen a negative of any kind and had only the little instruction leaflet that came with the camera and materials. My first two films were fixed for six minutes, as advised by the directions, and when I could not print them I simply threw them aside, only to discover a year later, in the light of dearly bought experience, that they had not been allowed to clear in the hypo. Nevertheless, my persist-

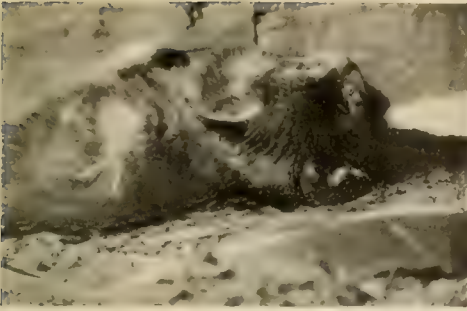
CAMERA CRAFT

ence carried me through and I did some surprising stunts. I "copied" a couple of portraits, forcing them, against their will, to cover the film, and it was a long time before I could even imagine why they resembled long-distance views of wads of mattress stuffing. But experience teaches, and it was not long before I was really at work and making that camera do wonders. With the aid of a portrait attachment, a sixteen-inch lens from a telescope, and a seven-inch reading glass, which I used in the same way, I obtained large portraits of cats, snakes, etc. An example is reproduced herewith. The following year, obtaining two red tickets at a local fair, my ambition was fired to the extent of laying out five dollars for a second-hand, 4x5, Bullard magazine camera. This instrument, which may have been worth fifteen dollars when new, is still my stand-by, though it has only a single meniscus lens and is innocent of a focusing screen. Now, Mr. Editor, do not turn up your nose and throw this in the waste basket, for have I not read, if not in your own columns, in some one else's, that certain landscape effects are best attainable by the use of such a lens?

A dark-room early became a necessity, for I soon found myself tired of waiting for night and developing behind uncertain curtains. It was with the evolution of this room that this article was to have been concerned. Well, here goes: There was a space under the basement stairway, one which opened off of a room formerly used as a kitchen, one which had been the receptacle for pots and kettles. The door was sixteen by thirty inches; and, when it was closed, there was no doubt about the dark, but room there was not. It was dirty with earth, pot-black, and fifteen years of spider-webs; and, as I never could get it clean, I gave it up and moved to a similar hole under the upper stairs, one which had been used only for old newspapers and was therefore comparatively clean. After I had swept down the walls and papered them to keep out the plaster dust, the place was all that could be desired in the matter of cleanliness at least. The entrance was the same size as that of the other, but horizontal and about three feet above the lower step. For a slight boy like myself, this was not particularly inconvenient, although upon entering it last summer to change some plates, after not using it for several years, I got stuck and had to be hauled out by my feet. But at the time it was handy enough. I could crawl in, stand up to pull my stool into place, sit down, let down a hinged table so situated that egress was difficult until I had finished, light up, pull the door closed by means of a cord, and then go to work. All good operators agree that everything should be within easy reach from the seat, and this was undeniably the case with things in my dark-room, including a bare stud just behind my right elbow. I often had good reason to be thankful for an injury which had destroyed sensation in the "funny-bone" of that arm.

My light was the great difficulty. An oil flame would soon burn blue for lack of ventilation, and I was frequently compelled to open the door a little to cool off. Besides the loss of time involved, the cold draught from the cellar was very unpleasant, especially when laden with the aroma of cats and other cellar accessories. So I used candle light, despite the fact that the candles were tallow and tallow will drip. My pail of wash water stood between my feet, as there was no room anywhere else. One night I was surprised to find, on certain

A COUNTRY DARK-ROOM



THE KITTEN—With 16-inch telescope objective in front of Brownie camera as described.



THE BADGER—One-twentieth second, f-16, bright sun, 1 p. m., August.

plates, a number of large patches that refused to develop. A rather wild hunt for the cause disclosed half an inch, more or less, of tallow, floating on the surface of the water. After that I set the candle in a saucer. The accompanying portrait of a kitten is reproduced from one of these spotted negatives.

About this time I made my first enlarger. I still believe it to be a triumph of engineering skill. It was built of laths and building paper, lined with black paper, and while it only enlarged up to 8x10, it was so big that I had to turn it on its edge to get it through the door. The camera front projected outward from a sliding box that carried the negative at the outer end. For adjustment in focusing, a rubber band pulled this front in one direction, while a string passing through a gimlet hole allowed it to be pulled in the other. An arrangement similar to the last raised the flap of the "book-form" dark slide in which the paper was placed. I found focusing very trying to the eyes, while the apparatus was clumsy and of limited use, so I later fitted up another arrangement for the purpose in my bedroom window. As I had, about this time,



THE BROOK—Two seconds, f-16, dull, cloudy, 11 a. m., September, ortho plate.

MY "CORTICELLI" KITTEN—One-twentieth second, f-11, 9:30 a. m., bright sun, ordinary plate.

ON THE LAKE—One-half second, f-16, in fog, mid-afternoon, ortho plate.

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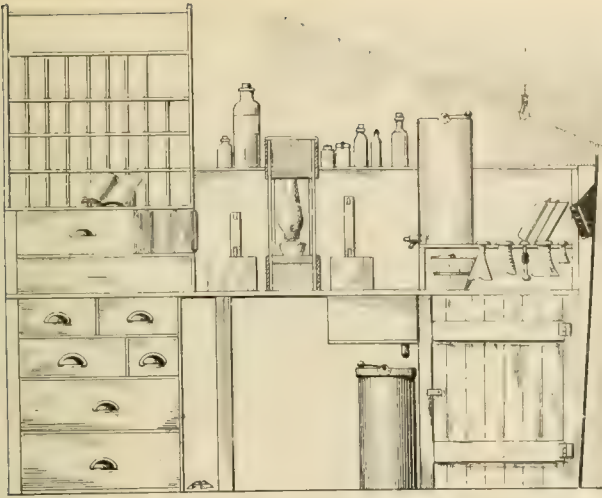
purchased a plate tank that I could load in the dark by the sense of touch. I discarded the little cubby hole under the stairs; and, for a time, was without even an apology for a dark-room. About two years ago we enlarged our residence, and since then I have been gradually converting my old bedroom into a combined photographic and biological laboratory. It is this room that I wish more particularly to describe. Although it is without many of the conveniences obtainable by the city resident, I find it quite as comfortable and nearly as handy to work in as any dark-room I have ever seen. For two years or more I had access to a dark-room fitted with running water, good sinks, electric bulbs, etc., even a mercury vapor enlarging lamp with appropriate optical accompaniment; I am nearly satisfied with my own simple one.

The room is eight by sixteen feet. On the north side are two windows with a chimney and pipe from the furnace below between them. The door being directly opposite the chimney, the room is conveniently divided in half, the west end serving the purpose of photography, while the east is given over to biological research work. The work table, thirty inches wide, occupies the whole west end, as shown in the illustration. The right two-thirds is painted white, as is the wall behind, while everything else in the room is finished in the natural wood, either oiled or varnished, or both. Beneath at the right is a cupboard for solutions, tanks, and such dry chemicals as are in moisture-proof packages. The drawers at the left—all thirty inches deep—contain materials, their perpendicular depth varying to accommodate contents of different kinds. The one for mounting materials, made to take twenty-four by thirty inch cover paper, determined the width of the entire bank. This drawer and the one for sensitive materials were both placed above the table, out of reach of possible drippings. Right here let me state that it is not necessary to keep plates and paper in a separate room, as many advocate, if the dark-room be well aired at all times so that the air contains no more moisture than is present in an ordinary living room. Were mine otherwise, it would not be comfortable for me.

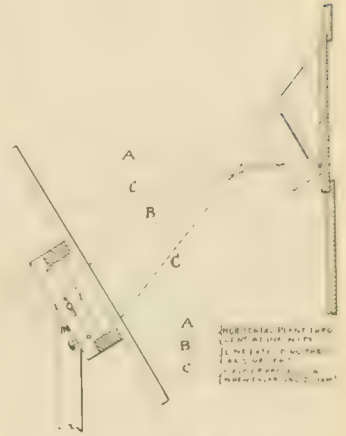
Above and behind the bank of drawers is located storage space for negatives, cameras and miscellaneous apparatus. The space in front is simply a raised table, beyond the reach of splashes, a very handy place to lay out negatives, paper, trimming tools, etc., when printing or enlarging. At the side of the lower drawers is a space for large trays and a sponge-development board, while above and at the left is another for my negative index.

In the center of the table, at the back, is the lamp box. Holes in the table beneath and an opening from the top into the next room provide ventilation. It is eight inches square, large enough for a good oil lamp with inch wick. The door and sides have sliding panels of ruby glass, orange paper, ruby fabric, or anything else I wish. When printing, the side panels are left out, the frames resting on small boxes at either side, as shown in the sketch. I generally use a candle (paraffin now), when working with plates. At my left, within easy reach, is one of my special conveniences. It is a small, light-tight cupboard, seven inches high, eight deep, and fifteen long, fitted with a sliding door. When printing, the various grades of paper lie in this cupboard ready to hand, yet protected absolutely from fogging.

A COUNTRY DARK-ROOM



SKETCH SHOWING ARRANGEMENT OF DARK-ROOM WITH FRAMES IN POSITION FOR PRINTING AND WINDOW SHUTTER CARRYING INCLINED BOX STANDING AT RIGHT-HAND END



SHOWING ARRANGEMENT OF BOX FOR ENLARGING AS FITTED TO WINDOW SHUTTER WITH EASEL OPPOSITE.

To the right of the lamp-box is a sink fitted with a two-section deck or cover that brings the surface flush with the top of the table when the sink is not in use. A creamer can beneath catches the waste water, while another, standing above the sink at the right, supplies fresh water through a conveniently placed tap. This is a satisfactory arrangement for any one who desires a limited supply of running water, and the supply reservoir or can might be increased in size if thought necessary.

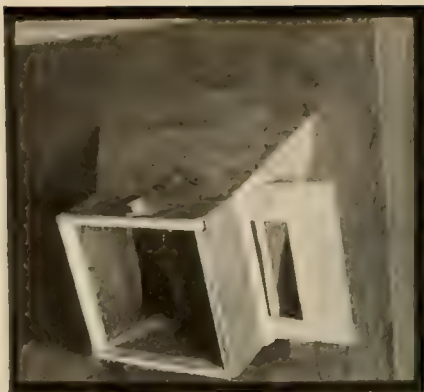


SHOWING THE INTERIOR OF MY DARK-ROOM

CAMERA CRAFT



THE EASEL—Showing winged nut and eccentric catch at back.



INCLINED BOX—Showing position on board across window shutter.

My print-washing device consists of a wire basket, shown at the right in the first picture. To use, it is suspended in a pail of water, the prints if small lying loosely within it, or, if larger, standing on edge in rolls or coils. Occasional slight agitation and a little watching to see that the face of prints do not come in contact with the wires and acquire rust marks, are all that is required. Such papers as Studio Cyko, which curl backward when wet, keep themselves separated without attention. I know this is all wrong in theory, as the hypo really ought to lodge between the prints, but I rinse off each print when it comes from the hypo and again just before drying, and have had no ill effects. Prints tacked up on the south side of the house remained exposed to sun and weather for a whole summer without serious fading. Surely a test could hardly be more severe.

The vital portions of my enlarging outfit are shown in the two small photographs herewith, and also in the form of a diagram. The shutter that covers the window used, is framed from laths and covered with building paper, with black paper on the inside. A three-quarter inch board across the upper part supports the box-shaped flange that receives the back of my camera. In this board, opposite the center of a right-hand pane of the four-paned window, a hole is cut, eight and one-half inches high, seven and one-half inches wide at the bottom and ten and one-half inches at the top. This box-shaped flange is built projecting out and inclining downward as shown, so that the lower edge of the angle of view is rather below the horizontal, insuring the illumination of the negative being even and from the sky only. Of course, this tilting position of the box necessitates a flare-shaped construction behind the negative slide at top and sides, hence the irregular shape of the opening in the board. The negative is held in the slide, shown partially withdrawn in the cut, by flat springs. When not used for enlarging, a card takes the place of the negative, rendering the shutter light-tight. The part in front of the negative slide is so shaped that my camera back slips into it, allowing about two inches space between its rear and the slide. The easel shown in the first of the two small cuts is so constructed that it will tilt to any angular position between the vertical and the horizontal. A small eccentric clamp and a winged nut on the pivotal

A COUNTRY DARK-ROOM



IN THE SHADE—Three seconds, f-11, bright sun, August, ortho plate, no filter.

THE SHALLOWS—One second, f-22, four times filter, October, ortho plate.

bolt, both of which are shown, hold it at the desired inclination. It is usually tilted at an angle of twenty-five degrees from the vertical, which brings it parallel with the negative being enlarged from. The standard lifts out of the base so that it and the easel may be hung together on the wall. The end of this standard shows at the left in the picture of the room. In use, the upper edge of the easel stands a very little above an imaginary horizontal line extending from it through the lens set at infinity to the lower edge of the negative, so



RABBIT TRACKS—One-half second, f-16, four times filter, slightly obscured sun, 10:30 a. m., February, ortho plate.

that the upper edge of the image on the easel is always below the lens. So arranged, the full value of the light from the north sky is used, making reflectors or ground glass unnecessary.

In the photograph, the chair, just shown at the lower left-hand corner, is against the door. The furnace pipe just barely shows opposite. Beyond the latter is shown the enlarging box, attached to the window shutter, stored at the end of the table. Between the pipe and the table is the window. Back in the corner under the chimney is a small cupboard that contains my cameras and some odds and ends, but I intend to use the upper half of this for a drying closet. At the top will be a sheet-iron flue extending into the chimney, for draught, while beneath and at the rear will be an intake flue. A door will close the front and the whole will be suitably trapped for light, dust and soot. I am also arranging a light-tight ventilator, a foot high, over the door of the room, for ventilation.

My large trays are made of oil-cloth tacked to lath frames, and one of them has been in use for four years with only a single touch of varnish to cover a small crack that made its appearance. Smaller ones have tin bottom and wooden sides, given several coats of enamel, while a few others are the ordinary enameled iron. Laths are an old stand-by of mine. Planed and unplaned, they were used to make my first enlarger, my present window shutter, my large trays, my photo-micrographic stand, some odd-sized printing frames, negative racks, etc.

After using this laboratory in its present form for nearly two years, I find that most of my ideas are satisfactory in practice. The sink is useful when sloppy work is being done, but it is usually covered and out of the way. A pail of water with a cup to dip therefrom at the right is nearly as handy as the creamer can and tap, and much less trouble. The paint on the table is not quite waterproof, and it needs a fresh coat. My lamp smokes if any one opens a window in the next room while the box is closed up light-tight. But the crowning inconvenience lies in the lace curtains which my mother insists must be kept over both windows, as these happen to be over the front door. Ergo, the photographer's house should always have the front door on the south, even if the road does pass on the north.

Imagination

By imagination the architect sees the unity of a building not yet begun, and the inventor sees the unity and varying interactions of a machine not yet constructed, even a unity that no human eye ever can see, since when the machine is in actual motion, one part may hide the connecting parts and yet all keep the unity of the inventor's thought.

By imagination a Newton sweeps sun, planets and stars into unity with the earth and the apple that is drawn irresistibly to its surface and sees them all within the circle of one grand law.

Science, philosophy and mechanical invention have little use for fancy, but the creative, penetrating power of imagination is to them the breath of life and the condition of all advance and success.—*"The Printing Art."*

Photo-Etching or Etching the Negative

By Corydon G. Snyder



With Illustrations by the Author

EDITOR'S NOTE: *The next article of this series by Mr. Snyder will treat of the Photo-Sketch portraits and give instructions for their production. Those of our readers who are interested in the work and may desire individual instruction or further details should communicate directly with Mr. Snyder, whose announcement will be found in our advertising pages. As he intends to incorporate these articles in a book to be published later, we must ask that our copyright of the entire contents of this magazine be respected and that this article be not reproduced without Mr. Snyder's consent.*



A REAL PHOTO-ETCHING—"USED MAINLY IN THE DELINEATION OF IMAGINATIVE OR IDEAL SUBJECTS—REQUIRES SOME OF THE ABILITY OF THE ARTIST IN ITS EXECUTION"

Photo-etching, or rather, film-etching as it should be called, is not properly a photographic process at all; for, although photographic materials are used in the process of its production, the camera is not. The making of film-etchings is in fact a real, though simple, method of etching in which photography plays no part save in the printing. Consequently, the real photo-etching requires some of the ability of the artist in its execution. Being used mainly in the delineation of imaginative or ideal subjects, it is therefore of use only to artists in the strictest sense of the word, but this is no bar to its utility. In the photo-etching there is combined the photographic image and the work of film-etching, two examples of which are reproduced herewith. These

require almost as much skill, particularly if one aims to do original work, as does the production of the photo-sketch, which I will describe in my next article.

CAMERA CRAFT

the photo-etching process being described first as somewhat germane to the photo-sketch.

There are a number of effects, effects giving very good results, that can be handled by almost any retoucher. Nearly all are familiar with those bust portraits of men in which the shoulders are rendered in the characteristic lines of the etching tool. Even this simple style is often handled quite differently by those making it. Some get rid of the coat by vignetting at the time of taking the portrait or by re-exposing a portion of the plate. Others opaque the coat out with india ink, lampblack or one of the lantern-slide stains. The beginner should simplify the work as much as possible by taking his negative with such a background and in such a way as to offer the least problem in the etching. This is best done by posing the sitter before a white background and placing immediately in front a white card or blotter attached to a head rest or other support so that it can be raised or lowered. This card should vignette off everything below the head excepting a part of the collar and necktie, which should be allowed to show through a V-shaped opening cut in its upper side. This should give a negative with the head surrounded by an almost opaque ground, upon which the etching is done. Using one of the pencils sold for marking on glass, one can make a guide sketch on the glass side of the negative so as to determine the most pleasing position of the etching line before proceeding to the actual work. Despite the fact that the background is almost opaque, these wax-pencil lines on the glass side will be sufficiently strong to furnish a guide. Having the

lines suitably drawn, one has then only to proceed to etch similar and additional ones in the dark deposit of the gelatine film of the negative, making sure that the negative is perfectly dry by well warming it, if necessary, and doing the etching with the extreme point of the etching knife. If one is doubtful of his ability to draw a satisfactory sketch outline of the body and shoulders, the difficulty can be overcome by making a second negative with the interposed cardboard removed at the time the original vignette is made, and a print from this will assist in the proper drawing. Should the density in the negative be secured by the application of opaque to the film, care should be taken not to bring



MISS FLORENCE STONE A Photo-Etching of 1904

PHOTO-ETCHING OR ETCHING THE NEGATIVE

the work too close up to the face, and then do a little blending around the outline of the head and face with an ordinary retouching pencil so as to avoid too hard an outline and a cut-out effect.

In making my first work along this line, I followed no set rule for securing the desired effects. I did not stick to any special style or composition, but considered each new picture as offering a different problem, and so went about each one in the way that seemed to be the simplest means of getting the effect desired. I did a large number of theatrical portrait and costume studies at this time in pure film-etching, an example of which is reproduced herewith. When some certain effect was particularly well liked, I would have the subject pose in the same position,



A "CORYDON ETCHING" (Photo-Etching) of 1915

make a negative thereof, and then endeavor to secure an effect on the plate similar to the original film etching. One might ask why, having a satisfactory sketch, I did not simply make a photographic copy thereof. This, of course, I often did, but combining the photographic image of the face with the etched effect of the rest of the picture has some advantages which should not be overlooked. In a photographic portrait there are qualities of light and shadow, not to speak of likeness, which an artist could not obtain otherwise. Besides, any one who has tried to make a photographic copy of a drawing knows how much of the effect is lost. In making a line cut from a drawing of this kind, as does the photo-engraver, there is not the same difficulty, as the plate can be strengthened so that it will print in the printing press and give effects identical with the drawing. To secure this effect in a copy negative it would be necessary for the retoucher to go over the entire plate and strengthen it, and no doubt etch in many parts. On the other hand, when I had taken a negative without any particular method of finishing it in mind, I would frequently place a print therefrom before me and use it as a basis for a sketch. Having decided which methods, photo-etching or photo-sketch, I would use, I then proceeded with the work. For example, if it was decided that the etching method would be employed, the sketch would be drawn with a line similar to that given by the etching knife, a sharp-pointed pencil being used. If the sketch effect was decided upon, a softer pencil, and sometimes a little brush work, was employed.

While the above is hardly more than an outline of the process, the reader can see that little more can be offered except in the form of individual instruction that will enable the teacher to criticise the work of the learner and suggest improvements therein, doing so in the varying different directions found necessary with different workers. Some find it not difficult to produce the desired etching effect with the knife, others find it necessary to improve some of the etched lines by the use of the retouching pencil or an opaque pigment along their sides, while still others experience considerable difficulty in securing even passable results. It is on this account that the full measure of success can be achieved by the average person in this line of work only through attention to individual instructions.

The Price of Success

The successful men are they who have worked while their neighbors' minds were vacant or occupied with passing trivialities; who have been acting while others have been wrestling with indecision. They are the men who have tried to read all that has been written about their craft; who have learned from the masters and fellow-craftsmen of experience, and profited thereby; who have gone about with their eyes open, noting the good points of other men's work, and considered how they might do it better. Thus they have carried themselves above mediocrity, and in striving to do things the best they could, have educated themselves in the truest manner.—PRINTING OUT.



Details of the "Cold" Flame Lamp

By Arthur Palme



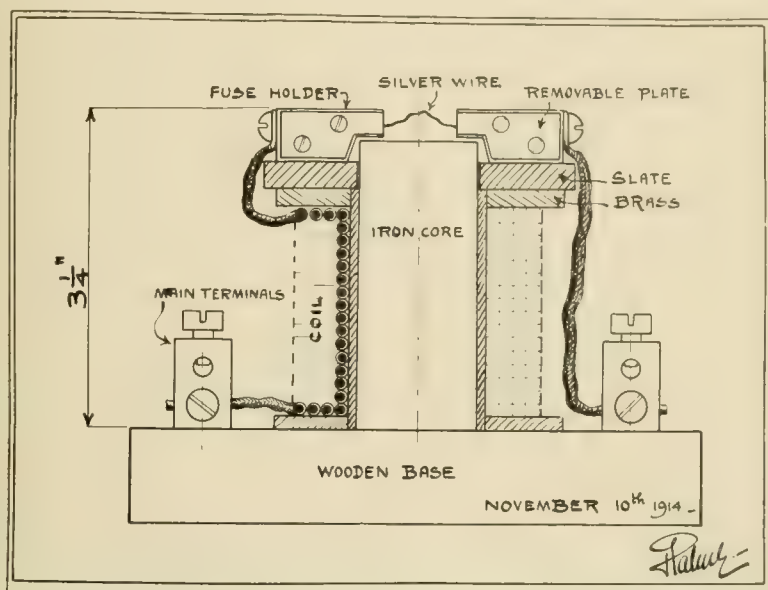
With a Sketch by the Author

It was with great interest that I read the article by S. B. Doten in the October issue of CAMERA CRAFT, and I am quite sure that a great number of readers, engaged in the scientific branch of photography, appreciated this new idea of producing a safe, quick, actinic, artificial light, thus doing away with the necessity of using the inconvenient, for small pictures at least, magnesium flash. For their possible benefit I would like to pursue the matter still further, from the electrical standpoint, and furnish a few important electrical details.

In this respect, the only advice given by Mr. Doten is his statement covering the connecting of the silver wire to a wiring of two hundred and twenty volts, nothing being said about the current necessary. I am afraid that most readers, trying to duplicate this kind of flash, would cause considerable damage to the house wiring without obtaining the desired effect. Assuming, for example, a

DETAILS OF THE "COLD" FLAME LAMP

silver wire of only three one-thousandths of an inch in diameter, a thickness of silver wire that may be had in the market under the name of "hair wire," and one inch thereof represents an electric resistance of approximately nine one hundredths ohms. Connecting this wire directly to a one hundred and ten volt circuit, two hundred and twenty volts being found but rarely, produces a current of twelve hundred and twenty-five amperes, enough to explode the wire in a very small fraction of a second. These twelve hundred and twenty-five amperes are theoretically right; in fact, however, the duration of the explosion is so short that they have, quasi, no time to fully develop. However, one must put a fuse in series with the wire, and it is in doing this that trouble may be



WORKING DRAWING OF THE "COLD" FLAME LAMP—THE ORIGINAL FULL-SIZE DRAWING IS HERE REPRODUCED ONE-HALF DIAMETER

caused. Since the piece of silver wire is nothing more than a fuse, there are two fuses in series and the question arises as to what must be the proper ampere capacity of the real fuse in order to withstand the momentarily heavy current demanded to consume the silver wire, and yet protect the wiring.

After several experiments, the writer has found that a twenty-ampere fuse possesses sufficient heat capacity to remain unchanged during the fusion of the silver wire. This holds true only for a silver wire of three one-thousandths of an inch diameter and one inch in length. Any increase in thickness of wire, besides changing the results to a great extent, would require a very much heavier protective fuse. A wire of No. 31, B. & S. gauge, that is, a silver conductor of approximately one one-hundredth inch in diameter, as recommended by Mr. Doten, requires, momentarily, something about thirteen thousand amperes and would call for a protecting fuse of at least seventy-five amperes. Of course, the fire and light effect in exploding such a comparatively heavy wire is very much stronger than in the example given above.

It should also be explained that before putting a twenty-ampere fuse in any house circuit, one should make sure that the fuses permanently located in the wiring are of no smaller size and that the copper wires will safely carry the current protected by this fuse. In other words, the wiring must be laid out for twenty amperes, conforming to the underwriters' wiring laws. One must not, under any circumstances, attempt to conduct the above experiment by simply taking current from an ordinary lamp socket.

If a greater speed, such as is desired in photographing swiftly moving insects, etc., in exploding the silver wire, the writer would recommend the use of a small and cheap apparatus, made as follows: Wind a circular solenoid, using No. 10 B. & S. gauge, double cotton covered copper wire, with approximately seventy turns. Place inside this coil a solid circular iron core and stretch the silver wire between suitable fuse holders just above the magnet. This arrangement may be conveniently made according to the accompanying sketch. It is a fact that an arc, located in a strong magnetic field, is violently extinguished, the latter producing the effect of a strong puff of air. With the magnet and silver wire arranged in series, care should be taken that the connection is so made that the tendency is to blow the arc upward; as, incorrectly connected, the arc would be extinguished by being blown downward against the magnet. This arrangement reduces the duration of the flash at least one-fifth.

All the above holds true only when direct current is used. It is almost impossible to achieve any satisfactory results if alternating current feeds the apparatus, but to properly explain the reason thereof would necessitate entering into the theory of alternating-current phenomena, which is not the purpose of this article. However, it might suffice to briefly state that an alternating current is one whose current values vary from a positive maximum through zero to a negative maximum, with this variation occurring, as a rule, one hundred and twenty times per second. The duration of the flash, approximately one one-thousandth of a second in the magnetic field, is so short in comparison with the period of fluctuation in the current values that it is impossible for the operator to determine the moment which alone gives a satisfactory result, the moment of maximum current.



A Simple Efficiency Test for Shutters

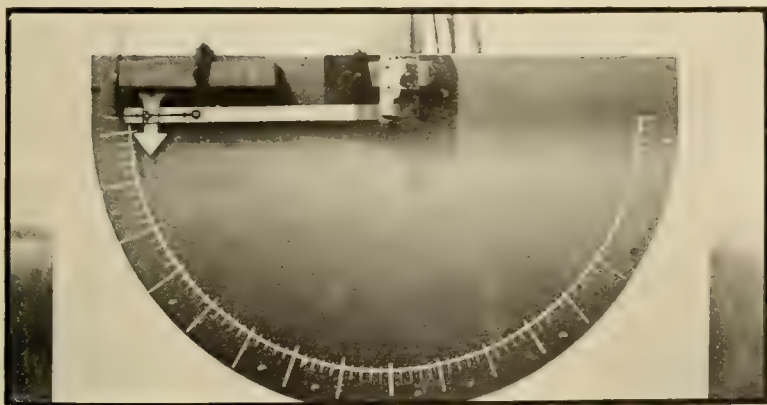
By John A. Duncan



With Illustrations by the Author

No doubt every one who owns a camera has wondered, at some time or other, just how fast his shutter was actually working and whether it was really as fast as the one used by some fellow photographer, having this doubt even though the speeds on the indicators of the two different shutters were marked alike. Perhaps, in an effort to settle the argument, they each produced pictures of running children, trotting horses, or others of a like kind, but yet the argument went merrily on. No tests are of any real value for comparison unless made under similar conditions, and even the merest amateur knows that conditions make immense differences in photography. Bright sunlight, hazy sunlight, cloudy, in shadow, on the water, all have their influence. In ordinary practice, unless the pictures are taken with cameras placed side by side, there is no basis on which to compare the merits of rival shutters; and, even if the cameras be so arranged, one has little or no exact knowledge of the speed of the object being photographed.

To overcome this difficulty and to get some moving object on which two or more shutters could be tested under exactly similar conditions, I designed and

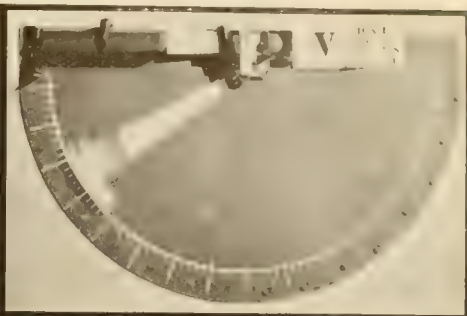
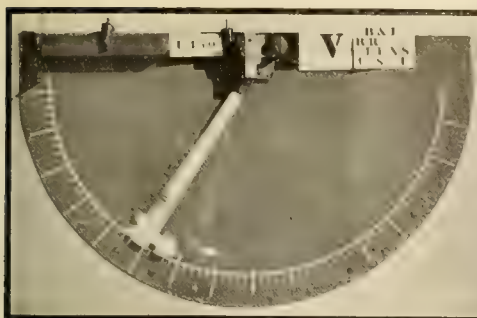


SPEED CHART WITH PENDULUM SET READY FOR RELEASE BY PULLING THREAD

built a machine that we will call a Pendulum Chart. The aim was to get a mechanism that was simple and yet exact in action; one that, every time it was operated, would work in the same way and at the same comparative speed. Only those who have cast around for such a device or moving object can realize how difficult it is to fulfil these conditions.

A description of this Pendulum Chart is first in order. I selected from the works of an old clock an axle carrying a flat-toothed wheel for the axis of my pendulum in order that the latter might swing true and smooth. The pendulum itself is a flat iron strip about three-quarters of an inch wide and one-sixteenth of an inch thick. In one end of this soft iron bar I bored a hole that would just admit the clock axle, on which it was slipped close up against the solid wheel, to which last it was tightly riveted. I next bored holes in two metal plates just large enough to allow this axle to swing freely. The next operation was to decide upon the proper length for the pendulum, and this was done by clamping the two plates in which the axle turned to the top of a board so that the pendulum could swing freely. Allowing it to swing, I timed it with a watch and gradually shortened it until the end passed the middle of its swing just twenty times in ten seconds. This may sound hard to do, but one will be surprised to find how closely he can follow and count the number of times the pendulum travels across this lower point while watching the second hand of his watch for the expiration of the required ten seconds. Having the pendulum shortened to the proper length, the next consideration was the chart, which was outlined with white paint upon a piece of red cardboard, as shown. A sheet of white paper was pasted around the pendulum, an arrow cut out of white cardboard was fastened to the end so as to point in the direction of the pendulum's travel on its initial swing, and to the front of the pendulum was attached one of the hands of the old clock so that its end extended slightly beyond the end of the pendulum itself. This last is to engage the trigger shown at the upper left-hand corner of the illustrations herewith. This trigger consists of a piece of thin brass, the lower end of which is bent around and soldered over an ordinary wire nail with the head towards the front. The point of the nail extends on the opposite side of the brass strip just far enough to engage the end of the clock hand on the pendulum. To the head of the nail extending forward at the front side of the brass strip is attached a thread by which the trigger is set off. Examining the illustrations herewith shows this brass spring or trigger nailed to the end of a block of wood, this latter being held in position by means of an ordinary joiner's iron clamp. A similar clamp is used to hold in position another block of wood to which the plates carrying the axle are attached. These clamps were used in place of nails or screws for the simple reason that I did not wish to mutilate the large drawing board which was used as a support for the chart, and also because the clamps allowed the blocks to be shifted and adjusted so that both the trigger and the axle would work perfectly smooth and free. The spots on the margin of the chart are thumb-screws, used to attach it to the drawing board. One must understand that the arc of this chart is to be drawn with the axle of the pendulum as its axis, and the radius must be the length of the pendulum. Any book on physics will give one the length of pendulums to swing a given distance in a given time, and as mine swung just twenty times in ten seconds, it is obvious that its first travel from the starting point at the trigger to the point where it started on its first return, was made in just one-half second. As the pendulum is influenced by gravity it gains speed until it crosses the bottom middle point of the arc, and starts to lose speed immediately that point is passed, continuing until the topmost point is reached. However, the pendulum speed

A SIMPLE EFFICIENCY TEST FOR SHUTTERS

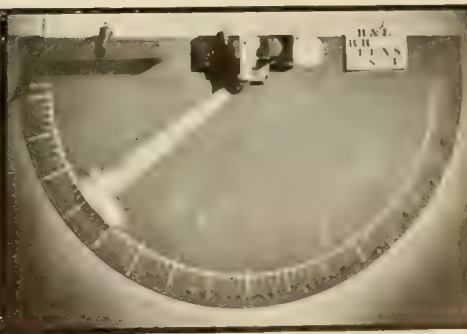
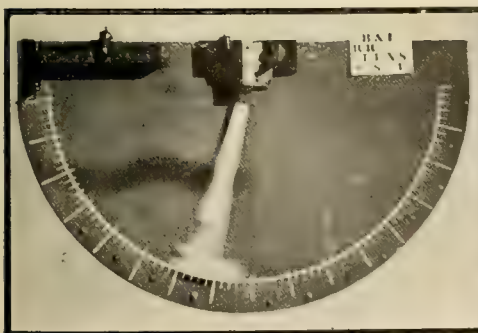


VOLUTE SHUTTER 1/150 SECOND

VOLUTE SHUTTER 1/25 SECOND

will be the same during any given part of its travel every time it is released by the trigger, and one should, therefore, aim to catch it within the same subdivision of the arc as near as possible each time, particularly if comparisons are to be made. Incidentally, the pictures reproduced here indicate that some forms of shutters get into operation much sooner after being snapped than do others. In using this apparatus, care must be taken to have it absolutely perpendicular so that the pendulum can swing freely without rubbing against the chart. This is best achieved by fastening the drawing board or other support flat against a wall where it is in a good, strong light. The best light for the purpose is during the middle of the morning or afternoon, as, with the sun too high, the shadows from the pendulum or other projections are too apparent. My drawing board is 22x30 inches; the pendulum is eleven and seven-eighths inches long and the radius of the arc painted upon the cardboard is exactly twelve inches. It requires only a little practice to enable one to release the pendulum and set off the shutter so as to catch the pendulum in about the same position on the chart. One must remember that the speed varies with different positions of the pendulum and try to catch it as nearly as possible at the same point of its travel each time.

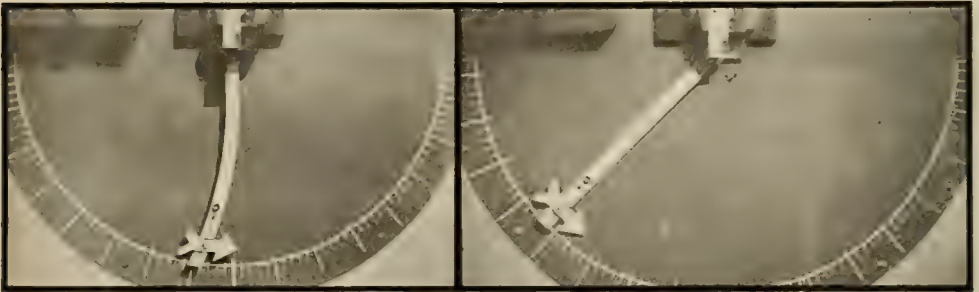
The "hand-made" shutter used in making one of the illustrations was the original cause of my building the Pendulum Chart. The inventor was very anxious to get a comparative test of his shutter, one which he had made by hand, with the better grade shutters on the market. So I tried it out on the Pendulum Chart; but that is a story for another day, and the benefit of the test



B. & L. SHUTTER 1/100 SECOND

THE HAND-MADE SHUTTER

is for the inventor to demonstrate. In the last illustration herewith, the photograph at the left was taken with a focal-plane shutter, while in making the one at the right a Multi-Speed shutter was employed. These, studied in connection with the preceding illustrations, show that it is quite hopeless to attempt "action" pictures with the ordinary shutters working at speeds less than the one hundred and fiftieth of a second. This seems to limit our choice of shutters for speed work to four of the between lens type, the Compound in the smaller sizes, the Optimo, the Ilex and the Multi-Speed; and the general class of focal-plane shutters having speeds up to one one-thousandth of a second. Of the between-lens shutters the Multi-Speed is the only one achieving speeds above one three-hundredth second and the only one that can be seriously considered as competing with the focal-plane in the class of work for which the latter was designed. The Multi-Speed Junior gives speeds up to one five-hundredth second, while the No. 0 and No. 1 achieve speeds up to one two-thousandth second, being faster than the focal-plane shutters with their speeds of one one-thousandth of a second.



FOCAL-PLANE SHUTTER, HIGHEST TENSION, ONE-EIGHTH INCH SLIT, DISTANCE FOUR FEET, LENS AT F-4.5

MULTI-SPEED SHUTTER, HIGH TENSION, DISTANCE THREE FEET SIX INCHES, SAME LENS AND STOP USED


As to illumination and general results, comparative results have frequently been shown in this and other magazines.

These last two photographs show more clearly than I have ever seen, the superiority of the Multi-Speed over the focal-plane in stopping fast motion, at close range, without distortion. The distortion in the pendulum photographed with the latter is almost unbelievable, but any one can verify this result by making a similar test for his own satisfaction; and what is true in such a test is true also with any focal-plane exposure made at close range.

Definite Aim

We should always be able to give reasons for our pictures, why we select them; the pictures themselves too frequently offer no explanation of why time and trouble have been spent on them. The *motif* is often so slight that if we look at our work six months afterwards, we wonder what possessed us to choose such a subject.

A definite aim, judgment in the choice of material, and an attempt to realize how it will look when cut out and reduced to monochrome, are necessary faculties for the making of pictures; aiming at these, it will not prove such a difficult matter to differentiate between the pretty and the pictorial.—HORACE MUMMERY.



Photographs of The Sea

By A. C. Warner



With Illustrations by the Author

As but a portion of the vast army of photographers find more than a rare opportunity of exercising their photographic skill upon old ocean, or that part thereof to be seen from the beach, there is generally a considerable doubt in their minds as to the proper procedure when the opportunity does arrive. Feeling that a few suggestions based on actual practice may be of assistance to some of the readers of this magazine, I am sending a few to the editor for reproduction if suitable, together with these few words describing their production.

They were all made with an ordinary $6\frac{1}{2} \times 8\frac{1}{2}$ view camera used on a tripod and equipped with a good anastigmat lens in a Korlis shutter. The exposure given was uniformly one one-hundredth of a second; and, while such a quick exposure somewhat tends to give a frozen effect, I find that the buying public overlook this defect and prefer pictures so made to those taken with a slower shutter speed. I make a practice of making all such pictures about three or four o'clock in the afternoon so that there will be more shadows and consequently more contrast and form to the waves than is the case with the sun higher in the sky. The light should come from a little in front and well to one side of the view, and of course in some locations the morning hours would be the proper ones to select, for the reason that the sun might be either too directly in front of the lens or too far behind the camera during the afternoon hours. My practice has been to use exclusively the recommended shutter speed and secure correct exposure by varying the size of the stop. For example, one of the pictures shown herewith being made a little after four o'clock late in October, the light was not nearly as strong as would have been the case at an earlier hour near the middle of the summer, and therefore stop f-32 was used, with even then a slight tendency to under-exposure. One of the others was made late in June at about three o'clock when the light was considerably stronger and consequently stop f-45 was used, with the result that with even this smaller stop used at the same speed the negative was much more fully exposed than the one made in October with the larger stop. Using this speed and working in a good light, I find that the size of the stop should be varied from f-64 for bright sun in midsummer to f-27 during January and February when the sunlight is not nearly so intense.

In making this class of pictures, it is practically impossible to give much attention to composition, for the reason that the action of different waves as they come rolling or breaking in may change the entire appearance of the resultant view. An exposure made on one wave will give light and dark masses



A LOWERING SKY—A STORM PORTENDS

in a certain position, while the exposure made on the next following one will completely reverse the position of these masses; consequently about all that one can do is to set up his camera where there is a repetition of pleasing breakers and then try only to secure characteristic and striking pictures thereof. Some of the results will be pleasing as to composition, while others may fail utterly;



OLD OCEAN IN A GENTLE MOOD

PHOTOGRAPHS OF THE SEA



WHERE THE WATERS SEEM TO PLAY



THE BREAKERS CURL SOME DISTANCE OUT

but if a little care is used to catch a fairly pronounced breaker or dash of spray against a rock, the resultant pictures will be pleasing to the average person, despite the fact that they may violate some of the rules of composition. Of course, one can easily use even quite a large-sized view camera in the hand in making these short exposures, but it is rather difficult to catch the waves at the desired instant, even when a good finder is used. By having the camera on a tripod, one can make sure that the horizon is level, and, standing with shutter release in hand, will find little or no difficulty in catching the largest and most pleasing of the breakers at the proper moment. Care should be exercised over developing of the negatives, as one that is rather thin will give either soft or contrasty prints, according to the grade of paper used, while a negative developed a little too strong gives entirely too chalky an effect to suggest the decided blue or bluish green color of the water. I have never found any advantage in color-sensitive plates for this class of work and cannot see how they could be of any benefit other than to hold back the sky, which is not necessary with exposures of such short duration.

It is this tendency in us all as we grow older that makes us drift back to the scenes of our youth; it satisfies a deep-seated want to look again upon the once familiar places. We seek them out with an eagerness wholly wanting in ordinary pursuits. The face of the fields, the hills, the streams, the house where one was born—how they are invested with something that exists nowhere else, wander where we will! In their midst memories come crowding thick and fast; things of moment, critical episodes, are mingled with the most trivial happenings; smiles and tears and sighs are curiously blended as we stroll down the Street of Lost Time.—“Our Friend John Burroughs,” by CLARA BARRUS.



A Serviceable Tilting Top

By George E. Whiting

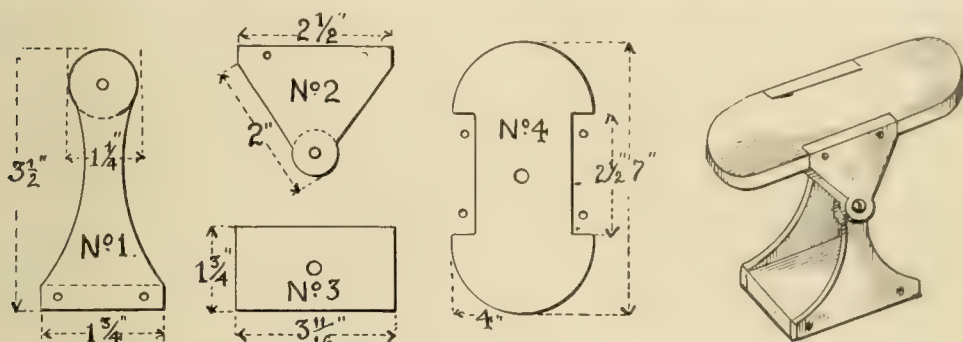


To make, in about an hour's time and at practically no cost, a very serviceable and at the same time a most simple tilting top for the tripod, one to be used with 4x5 or smaller cameras, proceed as follows: Take an old box (one used for apples is excellent, as it is made of white pine), and select one of the side pieces a quarter of an inch thick and free from knots. Then take that old pocket knife of yours and sharpen it up nicely, as the sharper it is the neater will be the finished job; that and a hammer are the only tools that will be required. The small piece of board, a stove bolt about the size of a tripod screw, eight or ten shingle nails, some glue and sand-paper, will be all the material needed. Borrow a pair of compasses from your son or younger brother

A SERVICEABLE TILTING TOP

and mark out, on the smooth side of the box material, two pieces, like No. 1 of the drawing, for the uprights; two like No. 2 for fulcrum pieces; one like No. 3, the bottom, and one like No. 4, the top. When these pieces are all cut out, take the sand-paper and rub them down nice and smooth, rounding the edges a little to avoid possible splinters.

Proceeding to put the pieces together, take the bottom piece and put a little glue on the edge of one end, take one of the uprights and bring the two together



to form a triangle, or letter L, and then put two nails through the joint at the edge to reinforce the glue, doing the same with the other upright piece by fitting it to the other end of the bottom piece. Next take the two fulcrum pieces, put a little glue on their upper or straight edges and bring these edges in contact with the top, as shown by the dotted lines, putting two nails through at each joint as shown by the small circles. To assemble, put the top and bottom parts together as shown in the drawing of the finished article, No. 5, and then put a screw from an old battery carbon screw through each elbow or joint as indicated by the small circles, keeping the center of the dotted circles drawn on the wood.

Take the screw from the head of your tripod and go to a hardware store and get a small stove bolt, with nut, having the same diameter and same number of threads per inch as nearly as possible. Drill a hole, the same size as the tripod screw, in the center of the top piece, and, if the nut on the screw that was bought be square, countersink it into the top until it is flush with the surface of the wood. Use the tripod screw to fasten the camera to this top. Drill another hole of the same size in the center of the bottom piece for the stove bolt to be used as a tripod screw. It is well to solder a little square piece of brass on the head of the stove bolt to form wings to turn it with the hand when tightening up.

It only remains to apply a coat of varnish or shellac and one will be well satisfied with the results, particularly if the small cash and labor outlay be considered. A thousand and one uses will be found for a simple tilting top of this kind. It can be carried in the pocket and therefore can be carried afield without being a burden, no small recommendation to the earnest worker.

No matter what your business—there's romance in it if you'll but look for it.—*The Cadmus Cadence.*

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

COPYING PHOTOGRAPHS AND PRINTS: Copying may be done as well by use of a baby-arc or Welsbach burner as by daylight. With the light just high enough above the camera to avoid reflection and the use of a seven-inch lens for average work, very fine results may easily be obtained with exposures of fifteen seconds or more according to the speed of the lens or diaphragm used. Seed 23 or other slow plates are best for copying. Paper showing grain will require an exposure with the light first on one side of camera, then on the other, care being taken to keep the light at the same distance and at the same angle to the print being copied. Curled or crinkled prints should be dampened with a moist blotter pressed against the back and then dried under pressure between with dry blotters. Pictures framed behind glass may be copied in the dark-room by the above method. If reflections are unavoidable, hang a focusing cloth over camera and as much in front of glass as possible in order that all catch-lights may be avoided.—V. A. Wood, New Jersey.

PHOTOGRAPHING SHOW WINDOWS: I recently was commissioned to photograph a number of show windows and found it practically impossible to do so during daylight without securing very objectionable reflections of buildings and other objects opposite. Then I tried making them by flashlight, with not only entire avoidance of the reflections, but with results most satisfactory. Experience taught me that the best way was to make one flash from quite well to the side in order to give relief to the articles in the window and then to make a slightly smaller flash from directly behind the camera in order to soften the shadows resulting from the first flash as well as to give a more evenly lighted effect. It is impossible to quote the amount of powder used, as this must vary with the size and depth of the window, the stop used and the distance of the flash made necessary by the focal length of the lens. It must be remembered that the amount of powder required increases with the square of the distance at which it is fired and that increasing the amount of powder does not increase the light produced proportionally, except as the powder be well spread out. Another good point to remember is that over-exposure is quite rare if not practically unknown in flashlight work, and therefore one need have no fear on that score.—W. E. R., Washington.

A SULPHITE SOLUTION THAT WILL KEEP: I am, and always have been, a great admirer of amidol as a developer for gaslight papers. For a long time I put up with the inconvenience of making up the stock sulphite solution every few days, being aware of its rather short keeping quality. Some time ago a fellow worker advised me that his scrap book contained a formula that would overcome this, and later looked it up for me. It consists merely of adding

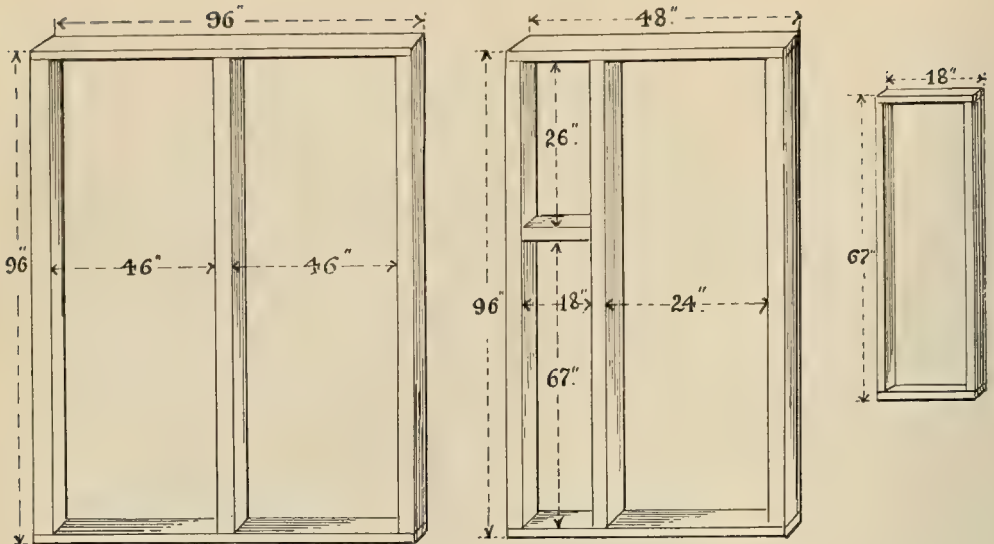
PARAGRAPHS PHOTOGRAPHIC

sixty grains of potassium metabisulphite to every five ounces of the solution, the solution being one made by dissolving one ounce of the sulphite in every five ounces of water. The clipping in question called attention to the necessity of using a reliable brand of sulphite, my own preference being for the recrystallized form. With my sulphite solution thus preserved, it becomes but a moment's work to make up a fresh amidol developer, as I do for each batch of prints. One wishing to try this plan has only to figure out the amount of amidol called for by his formula for the quantity of solution usually required, weigh out into small tubes or vials a number of like amounts, and then they are always ready to make up a developer by simply pouring out the necessary sulphite solution, dumping in one of the tubes of dry amidol, and then adding the required bromide as a last touch.—D. F. G., New York.

FOCUSING FLASHLIGHT GROUPS: When a photographer is called upon to photograph a dance or other social gathering, he generally succeeds in creating considerable ill will by the length of time occupied in focusing, arranging the group, and otherwise delaying and interrupting the proceedings. My plan is to take my camera around to the hall during the day preceding the function, set it up at a point where the most desirable position for the group comes on the ground glass, generally a stage at one end of the hall, and decide upon exact position of the camera and the exact stop to use in order to get in focus an imaginary group, say three deep on the stage and four deep in front thereof. In the case of a stage, I determine the outside boundaries of the group by including a little more than the sides thereof, mentally assigning these boundaries to a certain number of stripes in the wall covering or something of the kind. With a bit of gummed paper I mark the exact position of the camera front on the bed and also the position of the front as regards its elevation. With an indelible pencil I mark the position of the point of each tripod leg on the floor, sometimes, as a further precaution, pressing a small thumb tack into the floor in the center of the triangle the three points form. From the lens, as the camera is set up, I suspend a weighted string, which must hang like a plumb bob between the two sides of the middle section of my front tripod leg. When I appear upon the scene to take the picture, I simply inform those present that they must deport themselves between the two indicated boundary objects selected and this simplifies the grouping very materially. Then I can bring the camera into the room with holder in place, slide drawn, and focus and rising front set at the markers, having only to place each leg in position on its pencil mark and am instantly ready to make the flash without any fuss or bother.—A. S. D., Illinois.

A REMOVABLE DARK-ROOM: There are no doubt a large number of amateur photographers who, like myself, desire the convenience of a dark-room but cannot appropriate an entire room to that purpose, and do not wish to erect partitions that necessitate disfiguring walls or ceilings of the room in which it is located. Any one capable of using a saw, hammer and pocket knife can construct an excellent light-tight dark-room for about five dollars, the amount varying slightly with the size of the space enclosed. My own is 4x8 and is formed by making a frame for the side and end walls out of 2x2 lumber and covering

CAMERA CRAFT



FRAME OF SIDE WALL, END AND DOOR—NOT DRAWN TO SCALE

it with sheets of wall board that come in 4x8 size, costing about two and one-half cents per square foot. The upright pieces, five in number, of the frame are cut one and fifteen-sixteenths inches shorter than the height of the room, eight feet in my case. The two cross pieces at top and bottom of the side-wall frame are eight feet long and cut from 1x2-inch lumber. These last strips are covered with cloth on one side in order that they may fit tightly against both the floor and ceiling without damaging either. The frame for the end panel will require two of the 1x2 strips, four feet long, and one eighteen inches long to go over top of door. In putting up the frame, place one of the eight-foot pieces on the floor and in the center one of the 2x2 uprights cut about one-sixteenth of an inch longer than the space between the top and bottom pieces. Holding this upright in place, put the other cross-faced eight-foot piece in position at the ceiling and drive the upright straight. If this upright has been properly fitted, it will hold the top strip snugly in position. Next place the two end uprights in position, thus completing the frame for the side wall. The frame for the end is put up in the same way, except that provision is made for a door, as shown in the sketch herewith. The frame of the door is made from 1x1 lumber, and so fitted that it will swing inward. In covering this door frame, cut the wall board about an inch and a half larger all around except at the hinge side, and this will make an overlap when the door is closed that will exclude all light. If it is desired that the outer surface of this door be flush with the outer wall when the latter is covered with the wall board, it will be only necessary to nail a piece of the wall board of the proper size to the outer side of this door frame. The sketch herewith shows the construction of the two frames used to make a 4x8-foot dark-room in the corner of my room having an eight-foot ceiling. Of course, the dimensions of this frame can be altered to suit individual requirements, and I might advise that wall board can be obtained in three-foot strips of any length up to ten feet. The wall board is very easy to work and can be painted any color desired.—E. D. D., New York.

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A PHOTOGRAPHIC MONTHLY

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San Francisco, California, January, 1915

No. 1

Color Photography By An American Firm

Some weeks ago there was shown at the Memorial Art Gallery in Rochester an exhibit of color photography, the product of a process resulting from the work of Mr. Mees and staff of the Research Laboratories of the Eastman Kodak Company. Some newspaper gave publicity to the matter at the time, but such was a little premature for the reason that the results shown were not then indicative of even a near approach to a time when the material could be supplied. However, we have learned that the firm will ere long make announcement of its readiness to supply the requisites to photographers, doing so through the medium of their advertisements in the photographic press and elsewhere. In our next issue we hope to be able to give considerable detail as to the means and methods employed. In the meanwhile we can only advise that the colors are rendered in a surprisingly true and brilliant manner, while the manipulation is quite simple and uniform. The color plates are made in either a special camera or in an ordinary one when equipped with the special screen.

A Commendable Course

Under another heading in our Notes and Comment department will be found an announcement of the reopening of the second Amateur Prize Photographic Contest conducted by the Country Life Permanent Exposition. The judges, men of high repute, found the pictures unworthy of awards and advised a reopening of the contest, which suggestion has been acted upon. There should be more of this disinclination to bestow awards upon work of an unsatisfactory character and there would be then an increased appreciation of such tokens of artistic skill in the use of photography as a means of expression. Too often awards are bestowed simply because the announcement has been made to that effect and those having the matter in hand have not the courage to withhold them and invite the criticism and additional work so doing might involve. All our readers doing pictorial work should consider the sending of a few pictures to this committee and in so doing express their endorsement of so commendable a course.

Photography at Our Coming Exposition

The plan for a large booth to house the Photographic group occupying Block 14 in the Liberal Arts Building, as announced in our April issue, was abandoned some months ago, mainly as not meeting with the approval of all the manufacturers applying for space. This did away with the intended gallery on an upper or mezzanine floor, leaving the placing of the exhibits in Class 121. Pictorial Photography, undecided, and we have therefore been unable to make any definite announcement concerning the matter. However, we are pleased

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to be able to give our readers the text of a letter going out to all photographers who have written the Department of Liberal Arts for application blanks or otherwise signified their intention of exhibiting. Those who have not yet done so should make immediate application for blanks and regulations, addressing, Theodore Hardee, Chief of the Department of Liberal Arts, Exposition Building, San Francisco. We understand that a representative exhibit of pictorial photography is assured by the applications for space already made, but would urge all pictorial workers to strive for at least the acceptance of a few examples of their work. Below is the text of the letter recently sent out over the signature of Theodore Hardee, Chief of Liberal Arts.

"December 1, 1914.

"GENTLEMEN:

"I am happy to inform you that a special booth or gallery, for the display of Pictorial Photography, is now assured in the Palace of Liberal Arts.

"Please, therefore, advise me before December fifteenth whether you still desire to exhibit your photographs of this class. If so, state the exact number, with size (unframed) of each photograph that you wish to submit for consideration of the Committee on Selection.

"For the sake both of economy to you and readier handling by us, we prefer all these photographs to be expressed (charges prepaid) without frames. The Committee can then have the accepted photographs suitably framed here, with glass.

"A flat charge of two dollars will be made by this Department for each photograph exhibited (large or small), to cover the cost of framing, glass, hanging and maintenance. This remittance should be sent at the same time the photographs are forwarded, and be made payable to the 'Panama-Pacific International Exposition.' A refund of two dollars will be made for each photograph that is not accepted.

"If exhibitors are especially desirous of sending their photographs already framed, they may do so and, if acceptable, these will be hung as received, for which a flat charge of one dollar per photograph will be made.

"Please do not forward your photographs until you receive further notice from this Department as to just how, when and where to send them. I expect to give you these and other particulars shortly after the middle of December, so that you can have your photographs ready to forward early in January, 1915. It will, therefore, be advisable for you to commence preparing them without delay.

"No names, addresses, or titles will be permitted on the face of the photographs displayed. This Department will place upon each photograph a number by which it can be readily identified in the catalogue. The title of the photograph, with the exhibitor's name and address, should be plainly marked on the back of each photograph when forwarded.

"All photographs displayed must be covered with glass to prevent possible defacement or other damage.

"Meanwhile, kindly let me know as soon as possible whether I may surely count upon you to enter an exhibit, and if so, exactly how many photographs you wish to submit, with the precise dimensions and character of each. Awaiting your reply, and assuring you of my heartiest co-operation, I remain,

"Very truly yours,

(Signed) THEODORE HARDEE.
"Chief of Liberal Arts."

Thank God every morning when you get up that you have something to do that must be done, whether you like it or not. Being forced to work, and forced to do your best, will breed in you temperance, self-control, diligence, strength of will, content, and a hundred virtues that the idle will never know.—CHARLES KINGSLEY.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Dealing With Over-Exposure

A New York correspondent has a number of exposed plates that were given, through mistake, several seconds' exposure instead of the fractional part of a second intended. He cannot duplicate them and the one he has developed came out very poorly, despite his use of a generous supply of bromide. We can only advise that he try another and start by giving it an immersion of several minutes, sufficient to thoroughly permeate the film, in the A or No. 1 solution of his developer, the one containing the developer proper and the preservative; then mix in a very little of the B or No. 2 solution and continue slowly. If the image does not start to appear in a couple of minutes after adding and mixing in the alkali solution, a trifle more can be added, proceeding in that way until the desired results are secured. Of course a little bromide should be used in the original solution and care should be taken not to add too much of the alkali or No. 2 solution without first giving that already applied sufficient time to work. The film being full of the original or No. 1 solution, the effect of adding the No. 2 will be slow in showing. Some years ago there was advocated what was called Mercier's treatment, which consisted of soaking the plate in a two and one-half per cent solution of tartar emetic or cream of tartar, followed by development in:

Hydroquinone	40 grains
Sodium sulphite	1 ounce
Sodium carbonate	1 ounce
Water	20 ounces

We have had no personal experience with this last, but it is well worth trial and our correspondent might assure himself of its value by purposely over-exposing a couple of plates and trying it, or both plans suggested, thereon.

A Useful Reducer

There is a local worker who uses a little scheme that others might wish to apply. He keeps on hand a ten per cent solution of per-

manganate of potassium, a quite cheap chemical, and a solution of like strength of sulphuric acid. One drachm of the first solution and five of the latter are added to ten ounces of water and this forms a reducer that requires no washing of the plate after its use. Applied in a sweep to the surface of a dry negative, it acts much the same as the persulphate reducer, reducing the high lights more than the shadows. Applied to the wet negative, the action is quite even throughout the entire deposit, both in the high lights and in the shadows. As our worker finds a negative that is a little smoky or perhaps a trifle over-developed, he uses this reducer. Its reducing effect is not as great as that of either the persulphate or Farmer's formula, but it will give perfectly satisfactory results where only partial reduction is required. It also serves as an admirable test for hypo, the presence of the latter in the film causing discoloration of the solution and demanding that a new supply be mixed up for use. The fact that no after washing is necessary makes the solution admirably suited to local reduction where the effect desired requires not too great action. Portrait negatives that are inclined to become blotchy and bad when ordinary reducers are employed for the reduction of local density, are particularly amenable to the skilful use of this solution, as it works so slowly that there is little danger of irregular action.

Sensitized Fabric

Several correspondents have asked me to advise where they could obtain cloth coated with an emulsion on which enlarging could be done, one of them wanting to make mainly contact prints and an occasional enlargement requiring only the speed of ordinary developing paper. One of the first was advised that there was no such cloth obtainable, but he wrote again to say that while it might not be manufactured in this country, it was obtainable in England. In this I believe he is in error, as I find the following in the An-

swers to Correspondents department of the *British Journal of Photography*, a magazine that is certainly well informed as to British products. The editor says: "There is no means of coating fabric with a sensitizer of gaslight rapidity, nor is there such a fabric on the market." It seems that firms in Chicago and elsewhere make a business of turning out pillow tops decorated with enlarged portraits from small originals furnished them, and their so doing gives the impression that seems to prevail. These are made by printing from enlarged negatives, the cloth being sensitized with what is practically the Kallitype formula. One could, by employing wet plates and doing the retouching with an air brush, prepare these enlarged negatives at a very low cost; in fact, produce better results and do it more cheaply than by trying to work with an emulsion coated on the cloth and the resulting grain of an enlargement from a small copy negative to contend with.

Photographing Shop Windows

One of our contributors to the "Paragraphs Photographic" department tells of his success in photographing shop windows without the troublesome reflections that are so hard to avoid, doing so by means of the flashlight. The plan he advocates is a good one and we would refer our Oregon correspondent thereto. Again, we have seen the work of a local photographer who is quite successful in this line, and inquiry discloses the fact that he makes all such exposures during twilight when darkness is just coming on, giving from four minutes' upward exposure. With these long exposures he does not have to trouble about people passing between his camera and the window if they are not dressed too light and refrain from coming to a halt.

Fog In Development

A correspondent who does considerable finishing for the trade has been having trouble with developing fog; at least, he is quite sure that his trouble lies in the development, as he has the same difficulty with some film of his own exposing in a camera that he knew to be perfectly trustworthy, when developed in absolute darkness. About all we can do is to suggest that his sulphite may be at fault; he may be using either an unsatisfactory quality or using too much of it. This is particularly liable to be the trouble with a hydroquinone developer, as such is less sensitive to bromide than many of the others.

The ordinary sulphite of commerce may contain as much as half its bulk of sulphate, and this last, besides being in no way a preservative, is in reality an addition to the amount of alkali used. On the other hand, he may be using a perfectly good sample of sulphite and simply employing entirely too much. We would advise buying a supply of sulphite of some reliable brand and then trying using a somewhat reduced amount. If this fails, one might try substituting metabisulphite of soda as a preservative, using only one-fourth the amount indicated for the sulphite, and then if fog persists it can be assumed that the trouble is due to some other cause. If our correspondent will send a copy of his formula, we will be only too glad to go into the matter more deeply.

Lantern Slides With An Enlarging Rig

Our Illinois correspondent is advised that he can make lantern slides with his enlarging arrangement if his camera has sufficient extension. This can be determined by trial. Place the desired negative in the carrier, rack the lens out as far as it will go, and then bring the enlarging easel up to the lens until the reduced image is sharp. If it, the image, be then too large to come within the scope of the lantern slide mat, an extension should be built to carry the lens at one end and fit the front of the enlarging camera at the other. The amount of added extension required will depend upon the focal length of the lens and the amount of reduction necessary; and, of course, it will be the difference between the required draw and that afforded by the camera in its original shape.

Mending a Shutter Blind

In reply to a correspondent in Ohio whose roller blind is full of minute holes, according to a writer in an English magazine some two years ago, a thin coating of rubber solution, well rubbed in, allowed to dry and the process repeated several times, applying it to both sides, will effect a cure. The dry final coating must be given a rub with lamp-black to give it a finish and to prevent the windings sticking together when the blind is rolled up. We ourselves have mended small, individual holes by applying this rubber solution, but our correspondent complains of a multitude of them. Really, a new curtain would seem to be demanded if the situation is as bad as he claimed.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

A Review

The Photographic Digest has now been running some fifteen years, and I think it is honestly entitled to claim that during that period no important advance has occurred in the photographic field without prompt notice in its pages. It has been my object at all times to give our readers a digest and only occasionally a critique. Naturally, among the hundreds of inventions and suggestions scattered through the voluminous photographic journals of Europe, only a small number turn out of immediate practical importance. Some are based on premature judgment, some are superseded, others of great value fail to attract attention. At the present moment, with photographic progress suffering the common fate of being at a standstill, the opportunity is presented and the necessary time available in which to review the mass of material embodied in the "Digest" during past years, and re-presenting those formulæ or processes that general experience or personal experimentation has proved of value. I propose, in doing so, to place the matter reviewed under definite headings, commencing with the development of negatives and lantern slides.

Development Since 1900

While these years have brought a plentiful crop of new reducing agents, it cannot be said that the general practice of photography has been much changed thereby. It is so commonly felt that in the end all developers yield about the same results when properly used that little interest is taken in new claimants, and metol, hydrokinone and pyro hold their own. The only visible encroachment is the use of amidol in the development of plates to an increasing extent, a practice made simple and economical by the introduction of acid formula (vide infra). The desire to use a simpler developer for autochromes than pyro-ammonia has led the Lumière brothers to introduce metochinone, but it has no real advantage over the original formula. Perhaps the most stirring event in

this field was the announcement of the hydra-zine developer as marking the end of over-exposure and not a few thought that one of our worst difficulties was ended; but theory and practice have not kept step and the hydra plate has not absorbed the market. Stand development is now so well known and appreciated that there is no need to rehearse its general details, but I reproduce one formula that is valuable and not commonly employed. It is based on the acid amidol idea and is as follows:

Stand Development With Acid Diamidophenol

Having had a long experience of tank development with pyro-soda, I elected to try diamidophenol by way of a change, and also with the object of finding out whether I was missing any more advantageous form by adhering to pyro-soda. The formula I made up was:

Sodium sulphite	500 grains
Potassium metabisulphite.....	100 grains
Potassium bromide	10 grains
Diamidophenol	50 grains
Water	40 ounces

Three dipping-baths were used, each containing forty ounces. One of these dipping-baths had four hundred grains of sodium sulphite and two hundred grains of potassium metabisulphite in place of the quantities given above, and any plates suspected of over-exposure were first placed in the more restrained bath. The time of development in the normal solution necessary to give good printing density averaged about ten minutes.

When using pyro-soda for tank development, I have occasionally been troubled with transverse marks of slightly less density than the rest of the plate. With acid diamidophenol I never saw anything approaching uneven development.

The practice of acidifying amidol and diamidophenol solutions has undoubtedly improved their usefulness in a very marked manner, not only by increasing their stability

in solution, but by the ready way in which rapidity of development may be regulated. Personally, I regard either acid amidol or acid diamidophenol as the best all-round developer one can possibly use.—G. T. Harris in *British Journal of Photography*.

Following out the formula for acid amidol developer, I reproduce this note:

Some months ago I gave a synopsis of recent writings on the above subject, with a full report of the use of acid amidol. One formula called for acid sulphite lye, which in France is commercially obtainable, but in this country seems rarely carried by dealers. A formula was given for making it by the addition of sulphuric acid to sodium sulphite and water, which should then yield a forty per cent solution. My own experience is that a solution so made promptly crystallizes. I obtained a workable solution by diluting to ten per cent and modifying the quantity in the formula accordingly. The *British Journal of Photography* has an article on the equivalence of acid sulphite lye with potassium metabisulphite, and finds that a twenty-four per cent solution of the latter is equal to the former, and may be used in the place of the lye. I think most workers will decidedly prefer this to the unpleasantness of adding sulphuric acid to sodium sulphite. In the same article our contemporary publishes the Underberg formula so modified, together with their own variant. It is as follows:

	Underberg's Formula.			B. J. P.
	Hard	Normal	Soft	Formula
Diamidophenol (Amidol)	25 grains	25 grains	10 grains	20 grains
Sodium sulphite	160 grains	300 grains	120 grains	240 grains
Potassium metabisulphite	117 grains	62 grains	2 grains	30 grains
Potassium bromide	25 grains	13 grains	4 grains	2½ grains
Water	10 ounces	10 ounces	10 ounces	10 ounces

Personally I usually employ the sodium bisulphite in place of either sulphite lye or metabisulphite. The great advantage of acid amidol is that it can be used for all kinds of development and can give every desired result.

Rapid Development

A most interesting paper and of great practical value to the trade photographer was the one by Mr. Mortimer, the editor of the *Amateur Photographer*, of London. His great technical skill and world-wide reputation are sufficient warranty for the practicability of the process he advocates. Mr.

Mortimer bases his practice upon the work of A. J. Watkins in the matter of time development and argues that if the time of development may be indefinitely extended by the dilution of the developer and yet preserve gradation, it may be indefinitely shortened by the concentration of the developer with an equal maintenance of gradation; and he finds that practice corroborates this theory. He recognizes no limit to the rapidity of development except those imposed by the physical restrictions of concentration of the solution and the expertness of the worker in handling the plates. In a recent issue of the *Amateur Photographer*, the method of handling spool films is dealt with in detail. The advantages of the method cannot be better stated than in the words of the author. He writes as follows:

"As a beginning, do not use the fully concentrated solution. Be content to develop the exposure in, say, half a minute. Dilute the developer one part in six of water. First, if a spool film is being treated, run it through a dish of plain water, see-saw fashion, for a minute, until it is thoroughly wetted. Pass the fingers over the surface to remove any small air-bells. Have the developer in a deep dish, which need not be much wider than the width of the film—this for economy of the developer. Hold the end of the film between the finger and thumb of the right hand. Let the film hang straight down, and

take the other end between the fingers and thumb of the left hand. Plunge the lower end into the solution and gradually draw it through and up, at the same time lowering the right hand holding the other end. Continue the action, drawing the film through the developer in a U-shaped loop, until the fingers of the right hand holding the other end of the film are in the solution and the left hand is uppermost, holding the film straight down again. This is, of course, the usual method of dealing with films which are not developed in a tank. In this case, however, the tiring monotony of see-sawing the film up and down for, say, ten minutes in

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a normal developer is avoided. By using the formula as given, one in six, the negatives will be fully developed in half a minute. Reduce the dilution to one in three, and fifteen seconds will suffice.

"When sufficient dexterity is gained, the film can be completely submerged, passed regularly through the strong solution and back again, while slowly counting one—two—three—four. The image literally flashes out as the surface of the film comes into contact with the solution, and within the time mentioned is developed through to the back. A slight pause is, perhaps, advisable as the right-hand end comes to the developer, to compensate for the double passage through the liquid of the rest of the film; otherwise, a steady, unwavering action is best. The film can then be passed straight into a strong acid fixing-bath: Hypo, six ounces; metabisulphite of potash, one-half ounce; water, twenty ounces. When fixed, the film is washed and dried as usual.

"It will be clear that for the worker with larger and longer spools of film the concentrated solution will have to be diluted somewhat to allow time for the actual passage of the film through the developer. The amount of dilution is, however, regulated entirely by the dexterity of the worker. If he can pass, say, a ten-exposure post card spool into the developer (being more diluted, a larger quantity and a bigger dish can be used), unroll it under the solution from one side of the dish to the other and back again twice in one minute, the developer can be used diluted with about ten times its bulk of water."

Of the developers suggested for use, the first is undiluted rodinal; the second, adurol, formula being as follows: Hot water, ten ounces; sulphite of soda, four ounces; carbonate of potash, three ounces; and, when dissolved, add adurol, one-half ounce. The third is a metol-hydroquinone solution made as follows: Hot water, ten ounces; sodium sulphite, four ounces; metol, one hundred grains; hydroquinone, two hundred grains; sodium hydrate, two hundred grains. In this way it is stated that a dozen spools can be developed in a quarter of an hour without loss of gradation.

Another rapid system for plates only is that of Paul Joanovich. Among other advantages claimed for the process are its

rapidity and cheapness. Two tanks are used. One is filled with a solution as follows:

No. 1: Metol	5 grammes
Hydroquinone	5 grammes
Sodium sulphite	100 grammes
Water	1,000 c.c.

The other with:

No. 2: Potassium carbonate ..	100 grammes
Water	1,000 c.c.

Twelve plates, placed in a metal rack, are lowered into the tank containing No. 1 solution, are moved up and down to dislodge any air-bells, and then left for thirty seconds. The rack is then removed and placed in the potash or No. 2 solution for thirty seconds, then instantly rinsed and fixed. Single plates may be treated in flat dishes in the same way.

As the plates are removed from the first solution after half a minute, only just the amount of the reducing solution which can be taken up by the gelatine in that time is used. This quantity is so small that when the plates are placed in No. 2 solution, over-development cannot occur, and the silver bromide is reduced in proportion to the exposure. If the exposed particles of silver bromide are reduced and the small quantity of absorbed developing agent used up, the action stops, since there is no longer any reducing solution present. The unexposed parts are not affected in the presence of the minimum quantity of the reducing solution absorbed in the first tank. Fog cannot form, hard negatives are extremely rare, as this defect is mostly caused by prolonged treatment of the plate in the hope of developing the unexposed portions. As the developing solution is allowed to act equally over the whole plate, the more fully exposed parts are over-developed, or fog is caused. By the new method this danger is as good as excluded.

Pyro can be substituted according to the following formula for the two solutions:

No. 1: Pyro	14 ounce
Water	20 ounces
No. 2: Sodium carbonate crystals ..	2 ounces
Sodium sulphite	2 ounces
Water	20 ounces

The cheapness of the process is due to the fact that the No. 1 solution can be repeatedly used, as the quantity of solution absorbed by the plates is very small. No. 2 solution is the only one which suffers. After every fifth or sixth dozen plates a fresh solution must be made up.

Another advantage, according to the author, is that the process is purely mechanical. Control of the plates during development is not required; is, indeed, useless. What is exposed is promptly reduced. Thus the process is simple. Every one able to follow the very simple directions can immediately develop with excellent results. The process should therefore appeal to beginners. Still another advantage claimed by the author is that on his system development can be carried out in total darkness.

It should be added that every developing agent, with the exception of amidol, which requires no alkali, can be used for this method. All alkalis, either carbonate or caustic, may be used.

Divided Development

The last method was based on the principle of divided development. This has advantages in many cases and among other formulæ the following are dependable:

PYRO-AMMONIA.

Place plate in one per cent solution of pyro for four minutes, transfer directly to one and one-half per cent solution of ammonia to which has been added one and one-half grains of potassium bromide per ounce. In four minutes rinse and fix. Benefits: No stained fingers, fine production of detail, and good gradation.

HYDROQUINONE-METOL.

Harold Baker, in *Photographic Scraps*, is enthusiastic in regard to a special application of it for rapid development. Mr. Baker is so well known as an expert that his whole statement is worth reproducing:

"One-minute development is carried out by bathing the plate in the 'reducer' constituent of the developer for thirty seconds, and then bathing in the 'accelerator' for thirty seconds more, without washing off the first solution. At the expiration of the minute the plate is rinsed and fixed.

"My solutions are: Reducer: Metol four drams, hydroquinone eight drams, potassium metabisulphite two ounces, potassium bromide four drams, water to one hundred ounces. Accelerator: Sodium carbonate twelve ounces, water one hundred ounces.

"I was working with the mixed developer until I applied the one-minute method, when I was so pleased with my

results that I have since developed all my portrait negatives, without exception, in the 'one-minute' way.

"The time in the two solutions may be varied to suit the exposure, whether under or over, and also to produce the kind of negative desired. If I find the exposure has been a little too short, the bathing in the 'reducer' solution is shortened, and the time in the alkali or 'accelerator' is prolonged until proper density is obtained. This also applies when there are violent contrasts in the subject. In such cases the plate may be kept in the first bath for about thirty seconds, followed by one to two minutes in the second dish, as may prove necessary.

"For normal exposures, where good density is desired, the first bath may be given for quite a minute, followed by the same time in the second bath. If over-exposure is suspected or known to have occurred, the first bath may be prolonged to two minutes or even more, and the time in the second bath be much shortened.

"It will be found that a first plate developed by this double method will be too soft and delicate, and it will also be very yellow in color. A second plate developed in the same solutions will be stronger and less yellow, and each succeeding plate will be denser and still less yellow. I think the yellowness is due to the absence of sodium sulphite in the second solution, the proportion of sulphite to alkali being far less than in the ordinary mixed developer. The gain in density is accounted for by the fact that each plate carries in its film a certain amount of the 'reducer' into the 'accelerator.' After a few plates have been developed, the increase of density appears to cease, but it is not advisable to run the second bath too low, or to use it too long without adding some fresh solution. The addition of a small quantity of sulphite to No. 2 solution prevents yellowness, but I find a better method is to add a small quantity of No. 1 solution to the dish of No. 2 before beginning to develop, as this not only prevents the yellowness of the image, but the thinness also. After six or eight plates have been developed, a little fresh alkali should be added to

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bath No. 2, which will need freshening up when the image is seen to appear too slowly.

"When a batch of plates has been developed, any of number one solution that may be left over may be poured into a bottle for use next time. It is well to roughly filter it through a tuft of cotton wool. I always pass the ball of a finger gently over each plate, as soon as it is put into the first solution, to remove any small particles which may be adhering to the gelatine. If this is not done the moment the plate is wetted, such particles cannot be removed without the formation of nasty spots which call for very careful spotting, in both negative and print.

"The second bath will not keep after use, and any left over should be thrown away. The surplus of number one solution should be kept in a separate bottle, as it always has a cloudy appearance and leaves a deposit on the sides of the bottle. When using it again, I always add a third or more of fresh solution, in order to keep up the quantity, so that plates shall be well covered.

"The advantages of this method of development are obvious. In the first place there is a great saving of time; good portrait negatives can be developed in thirty seconds in each solution, one minute in all, if the solutions are sufficiently concentrated. My solutions are just about the right strength for thirty seconds in each with my favorite plates; they give me portrait negatives that print well on Carbon Surface Bromide paper, and also give good prints in carbon. The second is economy of developer; this can be applied to a large number of plates, and be used repeatedly if a little fresh be added. The third advantage is reduction of exposure, and this is a great gain to the portrait photographer, even in these days of rapid plates.

"The greatest advantage of all, however, is the marked superiority of the portrait negatives it produces. One of the difficulties of the studio operator is the false values given by the ordinary plate developed in the ordinary way. The face, as a rule, is too dark, with exaggerated shadows, especially if the sitter is wearing light clothes. Very often matt varnish and other dodging must be used to keep

the face light enough, while printing sufficiently deep to render detail in the dress.

"The 'one-minute' method of development gives results far surpassing those produced with a mixed developer. The face will need less retouching, the high lights will show soft, delicate detail, the shadows will be more luminous and will also have more detail in them. The print will not present those blank patches of white high lights and black shadows which one often sees in portrait photographs. These advantages should induce photographers to at least give the method a trial, for if economy of time, economy of developer, shorter exposures, and better results do not appeal to them, I do not know what will.

"If I can help it, I never allow any one else to develop plates I have exposed, and the advantages mentioned are those I have personally experienced in daily work. Those who feel doubtful of starting a new method should try an experiment; expose a plate in the studio as usual, and, before development, cut it in two; develop one half in the old way, and the other half in the new, and compare the results."

Intermittent Development

A modification of this idea is presented in the article by J. Goodecke in *CAMERA CRAFT* for May, 1912, which is worth consulting by those dealing with subjects presenting strong contrasts.

The New Graflex Plate

One of our frequent visitors, a local newspaper photographer, has been using the new Seed Graflex plate, and the way in which he praises their good quality and speed would lead one to believe that he owned stock in the concern manufacturing them. What he likes most of all is their lack of inclination to fog, a heretofore serious fault in all ultra-rapid emulsions. For high-speed focal-plane work at this time of the year when the light is far from strong, these plates are a decided advantage. He has shown us some remarkably fine work done with one one-thousandth of a second exposure under conditions in which an ordinary fast plate would be of no avail. We would advise all of our readers to give this new product of the Seed factory a trial if they are doing any high-speed work.

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NEW MEMBERS

3983—Akijero Tamada, 2127 Nakao, Fukiai, Kobe, Japan.

3¼x4¼, bromide paper, of landscapes and portraits; for the same. Class 1.

3984—Dr. E. C. Roemele, McClure Bldg., Frankfurt, Ky.

3¼x5½ and 4x5, of art studies, landscapes, marines (flood scenes) and genre; for art studies, genre and landscapes. Class 1.

3985—F. A. De Vinney, 171 Amanuma, Sugimani Mura, Toyotama Gun, Tokyo, Japan.

3¼x4¼ to 5x7, developing paper, of scenes, customs and people, Japan, and a few of Holy Land and Asia; for general, but particularly children and girls' pictures. First-class work only. Class 1. Members, please remember five-cent postage is required on letters.

3986—J. P. Toberman, 542 S. Univ. Blvd., Norman, Okla.

Class 2.

3987—Edward W. Rose, McCoysburg, Ind.

Class 2.

3988—Ira Lamb, Milford, Neb.

Class 2.

3989—John Hunter, Cymbria Mines, Pa.

6½x8½, developing paper, of views; for the same. Post cards only. Class 1.

3990—S. T. Powell, Tuskegee Institute, Ala.

3¼x5½ and 5x7, developing paper, of portraits; for the same. Post cards only. Class 1.

3991—R. W. Rupp, 1919 Brookwood St., Harrisburg, Pa.

Class 2.

3992—Fred A. Pehrson, 100 So. Main St., Mitchell, S. D.

Class 2.

3993—Lester J. West, Chichagof, Alaska.

3¼x4¼ and enlargements, developing papers, of mountains, lakes, rivers and game pictures; for anything of interest, game pictures and sports in particular. Prints and post cards. Class 1.

3994—John H. Allen, Plain Dealing, La.

3¼x5½, developing paper, of landscapes, buildings, country roads, beauty spots; for the same. Post cards only. Class 1.

RENEWALS

317X—J. C. Hegarty, Utahville, Pa.

3¼x5½, 4x5, 5x7 and 6½x8½, various papers, of scenery and noted places in eastern, southern and western United States and Canada; for scenery, portraits and draped studies. Class 1.

654—H. E. High, Box 232, Ellsworth, Kans.

Would be pleased to do a little exchanging with good, first-class workers. Am not particular what the subject is, only that the work is good. Have all kinds of views for exchange.

2009X—Dr. Chas. F. Meacham, Bellows Falls, Vt.

Post cards only. Class 1.

2095—Gustav G. Stortz, 2424 Germantown Ave., Philadelphia, Pa.

3¼x5½, post cards, developing paper, of miscellaneous subjects; for athletic, swimming, or camping views. No portraits desired. Class 1.

2406—V. G. Heverly, P. O. Bldg., Center Point, Iowa.

Up to 5x7, also post cards, developing papers, of home portraits, landscapes and general views; for home portraits or anything of interest. Prefer post cards. Class 1.

2498—Dr. B. B. Sprout, 516 W. Fourth St., Williamsport, Pa.

3¼x5½, 4¼x6½ and 5x7, of miscellaneous subjects, some speed work; for the same. Post cards and prints. Class 1.

2773—John L. Maloney, Box 56, Missoula, Mont.

Class 2.

3227—V. Rose Huff, Chagrin Falls, Ohio.

Prints, post cards and enlargements, interesting subjects in good work and prompt exchange. Have a few in water color; would like to correspond and give detail of work. Class 1.

3255—Dr. A. M. Sutton, 175 So. First St., San Jose, Cal.

4x5, 5x7 and 6x8, developing paper, no glossy surface, of landscapes and marines; for the same. No post cards. Class 1.

3470—Fred McBride, Lock Box 38, Ramona, S. D.

3¼x5½ and 5x7, developing paper and post cards, of views and miscellaneous subjects; for any good card or print. Class 1.

3751—Harry J. Fromm, 450 Livingston St., Elizabeth, N. J.

4x5, post cards and smaller, developing papers, of historic, landscape, portrait and general views; for landscape, portrait, semi-nude and nude. First-class work. Class 1.

3770—J. William Harmon, P. O. Clerk's Box, Oklahoma City, Okla.

3¼x5½, 4x6, 5x7 and post cards, developing papers, of pictorial landscapes, marines, snow scenes, cloud effects, street scenes, public buildings, outdoor portraits; for simi-

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lar subjects. I especially like water views, marines, snow scenes, etc. Do not care for portraits or groups except interesting child studies. I turn out only high-grade work and permanent prints; no spotty, muddy, stained, imperfect prints sent out and only first-class work accepted in return. Would like to hear from foreign exchanges. Class 1. 3778—W. F. Lenz, 340 Santa Clara Ave., Alameda, Cal.
3¼x5½, various papers, of scenery, trees, streams, mountain lakes, etc.; for scenery that is absolutely devoid of figures. Want only those exchanges that will total up to one or two dozen prints. Samples of work

sent upon request. Class 1.

CHANGES OF ADDRESS

3601—H. G. Raveling, Lock Box 333, Warren, Minn.

(Was Brentford, S. D.)

3862—Olaf Larson, 555 College Ave., Valparaiso, Ind.

(Was 705 Freeman St.)

3921—J. Thos. W. Luckey, Gas City, Ind.

(Was Marion, Ind.)

WITHDRAWAL

3890—Albert Furze, Wardner P. O., Idaho. Has moved to Box 113, Clayton, Wash., and left his photographic apparatus behind.

CLUB NEWS AND NOTES

Los Angeles Club Exhibition

An exhibit of pictures by members of the Los Angeles Camera Club will be held during the first week of February, 1915, in the club rooms, 321 South Hill Street, Los Angeles. All work must be submitted two weeks in advance in order to give the hanging committee ample time to pass on the work, which must be submitted without the name of the artist. Any one who is a member of the club at that time will be privileged to submit pictures to the hanging committee, which will consist of one club member and two non-member artists of ability. The club representative will be J. L. Lopresti, an amateur photographer with excellent pictures to his credit, an artist in oil, and a well-known interior decorator. Mrs. Sabra Cather Woodford, an accomplished artist of Los Angeles, and an expert on pictorial composition, is expected to be the second member of the hanging committee. The third member of

the committee also will be a non-member of the club of artistic ability, having an appreciation of the artistic as expressed by the camera. A separate division of the exhibit will consist of Autochrome photographs in natural color.

Projection Picture Exhibitions

The Photographic Dealers' Association of New York has sent out invitations for its first projection picture exhibition to be held at the Camera Club, 121 West Sixty-eighth Street, New York, on the evening of December eleventh. This exhibition forms the first of a series designed to promote interest in this branch of the art and all are invited to submit slides for the consideration of the examining board. A jury will award diplomas of merit in recognition of exceptional work. Particulars can be obtained of J. W. Allison, 235 Fifth Avenue, or J. L. Lewis, 522 Sixth Avenue, New York.

OUR BOOK SHELVES

"California Romantic and Beautiful"

In this book both the author, George Wharton James, and the publishers, the Page Company, have done themselves proud in the matter of giving us a pen picture of California in a volume that is a delight to the lover of handsome books. The author has given us in the past several most charming books descriptive of our Western land; and these, well known to the reading public, make it unnecessary for us to enlarge upon his capabilities in matter of his subject. To give a general idea of the scope of the vol-

ume we can hardly do better than to quote from the title page the sub-title, which reads: "The History of Its Old Missions and of Its Indians; A Survey of Its Climate, Topography, Deserts, Mountains, Rivers, Valleys, Islands and Coast Lines; A Description of Its Recreations and Festivals; A Review of Its Industries; An Account of Its Influence upon Prophets, Poets, Artists and Architects; and some reference to what it offers of delight to the Automobilst, Traveler, Sportsman, Pleasure and Health Seeker." The volume contains over four hundred large

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pages, a map, and seventy-two plates, eight of which are in colors. Published by the Page Company, 53 Beacon Street, Boston, Massachusetts. Price, three dollars and fifty cents, net. Postage, thirty cents.

"The Photographic Instructor"

This book, one of the best of the kind that we have ever had the pleasure of examining, should be on the shelf of every photographic worker. The book has run through several large editions, which speaks well for its popularity. The author, J. I. Pigg, is well known as a writer in the photographic press of England and this book well sustains his reputation as one well capable of making clear the many problems that confront even those photographers of considerable experience. The book contains nearly two hundred and fifty pages, the matter is divided into twenty-nine chapters and a set of exposure and other tables, and some twenty-two plates and a wealth of other illustrations assist to make the matter more instructive and interesting. It is published by Strangeways & Sons, Tower Street, Cambridge Circus, London. Price, one shilling net. Copies can be obtained from Hirsch & Kaiser, 218 Post Street, San Francisco; price, fifty cents, postage five cents extra.

"American Annual of Photography, 1915"

This, the last issue of our only photographic annual, is an unusually good one both as to articles and pictures. The former are of more than usual variety and merit, running principally to those of an instructive and informative character. The illustrations, over two hundred in number, are exceptionally good and cover a wide variety. A large portion of these are full-page ones, many of them printed in colors, and each one well worthy of study by the photographer interested in pictorial work. This annual is really too well known to require description, and as it will be on sale by practically all dealers, we need hardly do more than advise our readers that it is exceptionally good value and they should not fail to order a copy before the supply becomes exhausted. George Murphy, Incorporated, 59 East Ninth Street, New York, are sole sales agents, supplying the trade, but we believe would furnish single copies at the retail price of seventy-five cents for paper covers and one dollar and twenty-five cents for the cloth-bound edition, in case

the purchaser cannot secure it of his local dealer. The postage on both editions is extra according to zones, ranging from six cents in the first two, twenty-four cents in the eighth, or all over eighteen thousand miles.

"Pictorial Landscape Photography"

A book that every photographer who is interested in the pictorial side of the art should have is this recent contribution to the literature of the camera that has been given us by Paul Lewis Anderson. It is a large octavo, 7x9½ inches, cloth-bound volume, printed on heavy antique paper, with fourteen handsome full-page illustrations. It gives the reader, in a most interesting and instructive manner, an able presentation of the subjective technique and methods employed in this most enticing field, and the book will prove of vital interest to any photographer interested in the pictorial side of landscape photography. Mr. Anderson is a writer of no little renown and his contributions to the photographic press make it unnecessary for us to enlarge upon his capabilities in the field covered by this book. The volume is published by *Photo-Era Magazine*, 383 Boylston Street, Boston; price one dollar and fifty cents, net.

"The Spell of Spain"

Keith Clark, the author of this, the latest of that justly popular "Spell Series," is eminently fitted, both by first-hand knowledge and a genuine enthusiasm, for the work of conveying to the reader much of the spell that this land of Arabian Knights and Don Quixote has for all who are so fortunate as to visit it. Despite the charm and interest in which the romantic history of the country so easily permits a writer to lose himself, Mr. Clark does not deny us a wealth of information that could hardly be conveyed in a more charming way. The volume is certainly one that will appeal to those readers who have but little liking for the usual descriptive style, and those who must have all the facts will find that but few if any have been overlooked by this writer. The book is handsomely bound, it contains an excellent map and is embellished with some fifty full-page illustrations, mostly reproductions of very fine photographs. Published by the Page Company, 53 Beacon Street, Boston, Massachusetts. Two dollars and fifty cents, net. Postage, twenty cents extra.

NOTES AND COMMENT

**A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest**

Reported by William Wolff

Walk two blocks and see the new Barney Frankel Doctor Merriman of Hartsook Studio has on. Also see what he bought for two bones.

H. H. Wonocott, of Willits, is well started on his fall rush of work.

Mr. Langhart, formerly of Pomona, is now located in Healdsburg.

H. Riether, of Healdsburg, is quite an artist; paints all his own backgrounds.

A. Salb, of Petaluma, gives away a box of apples with every twelve-dollar order. This helps his business as well as that of the Sebastopol Apple Growers' Association.

Von Orshott, at San Mateo, is showing some very fine work to attract Christmas trade.

Wolff & Dolan, manufacturers of Probus, have increased their factory space in order to take care of their increased business.

J. B. Hemminger will close his Modesto studio January first in order to give his entire attention to his ranch near that city.

H. R. Brinsmead, of Reno, has moved into his new and up-to-date studio.

W. W. Still, of Reno, is adding large developing tanks to his amateur finishing plant.

F. H. Hanson and W. A. Brown, of Stockton, are well into the work of their Christmas rush.

The Inverness Studio, Fresno, was certainly a busy place while the writer was in that town, with every prospect of the good business continuing indefinitely.

W. Frank Gardner, of the same town, is showing some fine portrait studies that should bring him an excellent Christmas trade.

F. C. Lee is another Fresno photographer who reports an excellent holiday trade already starting in.

Frederick Byron LaMoine, of the LaMoine Drug Company, of Richmond, was visiting his brother Carl, who has charge of the photo department at Bowman's, while the writer was there.

Lundstrum, of the Marcell Studio, Bakersfield, reported plenty to do, with the demand increasing as the holidays draw nearer.

J. B. James also reports business excellent, with a most gratifying amount of work to be done.

Gustav Cramer Memorial Fund

At the first photographic convention following the death of "Papa" (Gustav) Cramer, the Ohio-Michigan one, a suggestion was made that a committee be appointed to establish a Memorial Fund to be used in a manner appropriate to the character of and to honor and perpetuate the memory of this man who had so clearly stood out during his life as an example of all that was good and true, whose charities were manifold and whose influence in the progress of the photographic profession was so marked. Pirie MacDonald at once crystallized this interest by calling a meeting of the prominent photographers suggested as members of such a committee. This meeting was held November first at Mr. Phillips' studio in Philadelphia, Messrs. MacDonald, Phillips, Towles, Harris, Hoyt, Noble, Clark, Jones and Abel being present. It was decided that this memorial should take the form of an endowment of a room in a hospital, preferably in St. Louis, to be called the Gustav Cramer Memorial. Various plans were discussed for the getting together of contributions for the fund and the one adopted will be made known very shortly through the medium of the photographic publications. Mr. Phillips was made permanent chairman, with Mr. Core permanent treasurer-secretary. Mr. MacDonald was appointed chairman of the Press or Publicity Committee. The following gentlemen were appointed to the Executive Committee: Messrs. Phillips, Core, MacDonald, Harris, Noble, Clark, Strauss, Stein, Steckel, Walinger, Knaffl, Rinehart, Hammer and Topliff. The chairman will appoint a larger General Committee, whose members will cover the entire country. The affairs of the

Memorial will be handled for the present by the Executive Committee. The full plans will be made public shortly. Meanwhile those desiring any information can address Ryland Phillips, at 1507 Walnut Street, Philadelphia, Pennsylvania.

Amateur Contest Reopened

The Photographic Prize Contest Committee, working with and under the auspices of the Country Life Permanent Exposition, situated in the Grand Central Terminal, New York City, has been carrying on some interesting prize contests open to amateur photographers throughout America. The first contest was marked by an unusually high standard, the entries being pronounced by every one extremely beautiful and artistic. Prizes were given and the winning photographs were reproduced broadcast throughout the country.

Unfortunately, however, the second contest, which closed October thirty-first, was not conspicuous for the high class of the photographs entered. In fact, the judges, in examining the work submitted, unanimously found that it was not worthy even of honorable mention. The judges were men of reputation—Alfred Stieglitz, H. Chamberlain and Paul B. Haviland—and they did not feel that they could conscientiously award sums of money to inferior workmanship. They suggested, therefore, to the Contest Committee that the contest be re-opened and the contestants be permitted to submit better photographs. All amateurs may, of course, embrace the opportunity, by sending in pictures of their own posing and taking.

The Contest Committee in giving these opportunities to the public were actuated by the desire "to stimulate the love for the artistic and beautiful inherent in every one." In accordance with the recommendation of the judges, notice is hereby given that the Photographic Contest has been reopened, and contestants may send in sketches of their work in prize competition, up to March first, 1915. For detailed information, address, Photographic Prize Contest Committee, Country Life Permanent Exposition, Grand Central Terminal, New York, N. Y.

(Signed) JAMES J. HANNERTY,
Secretary.

The New Kodak Anastigmat

There was never any doubt in the minds of either novice or advanced amateur but that

Anastigmat equipment made for greater efficiency in photographic work. At the same time, the purchase of this equipment meant the expenditure of quite a sum of money—more than many of us could afford. The Eastman Kodak Company has now made it possible for every amateur to provide himself with an anastigmat lens, and at a price only slightly above that of the regular rapid rectilinear lens. This new lens is the Kodak Anastigmat f-8 and it gives definition and covering power equal to the most expensive anastigmat on the market. The speed, f-8, is, of course, not an extreme speed, but it will answer adequately for the every-day work of the average amateur. And remember that at f-8 its covering power, definition and freedom from astigmatism is the equal of any anastigmat known, regardless of price.

Solo Flash Powder

The attention of our readers is called to a new advertisement this month, that of Solo Flash Powder, which, despite the present high prices of chemicals, especially on magnesium metal, is exceedingly low. Most brands of flash powder retail for thirty-five cents and one dollar and twenty cents per half and two-ounce package, respectively, but Solo can be obtained at the price of twenty-two and eighty cents, respectively, for the two sizes. It is claimed by the wholesale agent, Frank Harrison, 766 Cauldwell Avenue, New York City, that this powder will give more light, bulk for bulk, than any other powder on the market, with a minimum of smoke. It is guaranteed not to cake or leave any residue and claimed to be the safest combination of any powder obtainable. It is delivered free to any purchaser of forty or more ounces, and this fact, with the difference in price as an added inducement, should make it a heavy seller. Those making flashlight work should certainly give it a trial. If your dealer does not carry it, write direct to the agent named above.

A Handsome Prospectus

A copy of the new catalogue of the Southern School of Photography has just reached our desk and has proven very interesting. The front cover is embellished with a handsome Artura Iris print showing the school building and the back cover with an Artura Green one of a charming landscape. Within will be found many handsome india tint reproductions of portraits and landscapes and

NOTES AND COMMENT

one of the former, a shadow lighting, is explained very fully by means of a diagram on the opposite page, showing just how it was made. But the main object of the booklet is to set forth the advantages which this school offers, both to the uninitiated and the practicing photographer for either learning photography in the most thorough manner or for adding to the knowledge one may already possess through the means of the post-graduate course. This notice of the catalogue should bring "Daddy" Lively enough requests to make both his supply of the booklets and his stamp box look rather exhausted, and we hope it will. It certainly would if our readers but realize what they miss by not sending for a copy. Address, Southern School of Photography, McMinnville, Tennessee, and tell them you saw the notice in our pages and expect prompt compliance.

The Autographic Back

While the new Autographic Kodak is the biggest photographic advance in twenty years, the attachment itself is perfectly simple—just a case of "you do the writing, it does the rest." Any negative worth the making is worth a date and title, and the value of every picture is increased by the ability to identify it positively in the years to come. Many kodakers seem to be under the impression that to get the benefits of the autographic plan, they must buy a new Kodak. Any owner of one of the popular sized Kodaks, however, can make his Kodak autographic by the purchase of an autographic back to use in place of the regular back. And the price for the autographic back is small, indeed, when you consider its advantages. We advise all our friends to seize the first opportunity to examine the Autographic Kodak at their dealer's. Its simplicity will be a revelation.

Flashlight Work

Victor flash powder, Actino flash cartridges and Victor portable flash bags are things that the live photographer cannot know too much about. That is, if he does not already employ them in his work. Any amount of light just when and where one wants it would have been a fairy tale once upon a time, but today we find all wide-awake photographers making use of this convenience. If you are not now using these goods, drop a line to the James H. Smith & Sons Company, 3541 Cottage Grove Ave-

nue, Chicago, Illinois, and ask for circulars of their goods.

Rodenstock Lenses

In asking us to allow no interruption of their advertising, the W. J. Lafbury Company advise that just at the time the war broke out they received a large supply of the celebrated Rodenstock Lenses, and as new shipments are now being made, no fear need be felt on account of a shortage of any of the series or sizes. The communication breathes a sincere spirit of optimism that is as cheering as it is praiseworthy, and such an enterprising firm should be accorded every success and encouragement.

The Rodenstock Lenses are manufactured by one of the oldest and most distinguished German optical houses, and the fact that they have only been on sale in this country for a few years simply means that the large demand for them was so great, nearer home, that the necessity of reaching out for the trade of this country has never been felt. The Lafbury Company was fortunate in securing the agency of this line of lenses, and our readers will do well to address a postal card or other request for an illustrated price list of the Rodenstock Lenses to W. J. Lafbury Company, 305 North Fifth Avenue, Chicago, if they have not already done so.

Home Portrait Flash Lamp

Another new advertisement this month is that of the Halldorson Company, of Chicago, the well-known makers of photographic apparatus and particularly of portrait and studio lamps. While the advertisement covers only their Home Portrait Flash Lamp, the photographer should inform himself concerning the Nitrogen Studio Lamp, their Studio Printer and others of their excellent products, by sending for their descriptive price list. The lamp shown in the advertisement is exceedingly neat and portable, carries a proof-light for arranging the lighting, and dispenses with troublesome batteries and noisy caps, all quite gratifying features in a home portrait equipment. Full particulars can be obtained by addressing the Halldorson Company, Madison Terminal Building, Chicago, Illinois.

A Gatling Gun Camera

The attention of our readers should be given to the advertisement in this issue by the Simplex people of their Multi-Exposure

Camera. It takes four hundred full-sized or twice that number of half-sized pictures, using the regular Eastman moving-picture film, loading in daylight. The price is remarkably low and when one considers the handsome enlargements that can be made from the individual negatives as well as the beauty of the pictures when shown in one of the "Baby Simplex" Four-in-One Projectors, made by the same firm, the attractiveness of this form of camera can be appreciated somewhat. Send at once for a copy of the Booklet No. 3, the latest published, and learn of the wonderful capabilities of this "gatling gun" of the camera family. Space does not permit us to enumerate the many appealing features. Ask for Booklet No. 3, addressing, Simplex Photo Products Company, Morris Park, Long Island, New York.

New Flashlight Utility

One of the greatest strides made in flashlight devices during the past several years is the new Prosch Dry Battery Cartridge. From the use of this cartridge it is possible to fire an unlimited number of bags simultaneously from a small pocket battery. This will indeed be welcome news to the photographer who has heretofore been restricted in larger flashlight work to the places where the regular current was available, for now he can go into the most outlying sections and make a flash with any number of bags, provided he is equipped with the Dry Battery Cartridge. A card dropped to the Prosch Manufacturing Company, 20 East Nineteenth Street, New York, will bring you descriptions of their latest inventions in the flashlight line that they have put out this season.

The New Rexo Paper

We have just finished using a half-gross box of this new, rapid developing paper and find it of an exceptional quality that will appeal to every user, amateur, commercial and portrait photographer. The manufacturers claim that it is made on a new formula and that every emulsion is scientifically tested, with the result that the user is assured uniformity and can always depend upon turning out prints of uniform quality. The latitude in exposure and development is most gratifying, as even with our test exposures we found that it required excessive over or under exposure before stain or fog could be produced. This means the elimination of much waste due to improper exposure. The

formula we used was that published by the manufacturers and sent out with every package of the paper, but a few exposures were submitted to our standard Amidol developer with perfectly satisfactory results. The paper is made in three grades, and there are three surfaces in each grade, so that the user is assured of a grade and surface suitable to every negative and to every requirement in the finished print. The prints may be toned to a rich sepia at any time after having been developed, fixed and washed, by using Sepaline, which comes in liquid or tablet form, obtainable from the manufacturers or dealers carrying the paper. Best of all, every package is accompanied by a guarantee coupon that insures the user against defective paper, which the manufacturers replace. We would advise our readers to obtain a sample and give it a thorough trial. Should their dealer not yet be supplied, it can be obtained from the manufacturers, whose advertisement appears in this issue, Burke & James, Incorporated, 240 to 246 East Ontario Street, Chicago.

In New Quarters

In a letter which reached us too late for attention in our December issue, Mr. and Mrs. Alpiser advised that they have purchased the Weimer Studio, located at 710½ Franklin Street, Tampa, Florida, refitting it throughout and making it a modern, up-to-date studio equipped for all kinds of photographic work. This is the oldest established studio in Tampa, Mr. Weimer having been in the business over thirty-four years. The location is of the best, being in the heart of the business district, and as both Mr. Alpiser and his wife are experienced photographers, the excellent business which they have done from the start should not only continue, but increase.

Something Worth Knowing

The past week there have been several visitors and two or three correspondents who inquired as to the possibility of securing a good lantern that was suitable for lantern-slide making and enlarging as well as for projecting the lantern slides upon a screen such as one would wish to use in the home as a means of entertaining the family and friends. Strange to say, none of these visitors or correspondents seemed to have heard of the Balopticon, manufactured by the Bausch & Lomb people, and the little eight-page

booklet that the firm get out covering its excellent features was quite a revelation to them. Not only was the price quite an attractive one, but they seemed surprised to find a piece of apparatus available that so completely filled their requirements. One can purchase the Model B alone and then either buy the set of accessories necessary for making slides and enlargements, using one's own camera lens, or if the lantern is to be used for projection only, a lens suitable can be purchased for a few dollars additional. Or, wishing to do all three, the set of accessories and the projecting lens can both be purchased. By all means send for a copy of the little booklet, sent free, entitled "Enlarging and Lantern Slide Making with Model B Balopticon," addressing Bausch & Lomb Optical Company, Rochester, New York.

Non-Staining Developer

The big reason, we suppose, why Eastman Special Developer has come into such general use among amateur photographers is because of the fact that it does not stain the fingers. There is another reason, however, which may not have occurred to you, namely, its convenience, for Eastman Special Developer is the one real universal developer. It may be used successfully for film or plates (tray development) and paper, and the results obtained could not be improved upon by the use of any other developing agent.

Be Fair To Your Negatives

If you do not use a Kodak Film Tank, you are doing yourself and your negatives a great injustice. You are not fair to yourself, because the stuffy dark-room takes half the pleasure out of developing, and you are not fair to your negatives because there is only one method that will give you the best results—tank development. Many an otherwise good negative is spoiled by fog; but fog during development in the Kodak Film Tank is an absolute impossibility. Better let your dealer show you one.

Illinois College of Photography

H. C. Schnell, student of 1907, was recently married to Miss Mattie Davis, of Collinsville, Illinois. They will make their home at Belleville, Illinois, where Mr. Schnell has a studio.

Miss Marie Wassman and Mr. Winslow Fuller have resumed their work at the Illinois College of Photography after an absence of several months.

Among the students enrolling the past month were four from abroad, — T. T. J. T. Fujimoto, Japan; C. Balchitis, Lithuania; H. Maude, Canada, and Y. H. Japan.

Professor A. G. Penrod has taken charge of the department of negative making and laboratory work at the I. C. P., succeeding H. L. Berndt, who will engage in business for himself.

Queer Upside Down Pictures

When Bert Reeves, of 132 Yarmouth Road, awoke on Thursday morning, he was amazed to see on the wall at his bedside a pleasant sunshiny picture of three houses standing on their chimneys instead of on their foundations. Gardens, green trees and scratching fowls, all upside down, but apparently quite undisturbed by the reversal, completed the view that met the amazed man's eyes, still somewhat heavy with the night's slumber. To make sure he was awake, Mr. Reeves rose and, gently getting out of bed, placed the width of the room between himself and the ghostly and unnatural apparition on the wall. Then he found that so far as he could tell he was not walking on the ceiling and felt sufficiently reassured to call in other members of the family to look at the uncanny picture. The blind was down, but the picture was in bright sunlight.

Then somebody noticed that the strange vision came through the keyhole of a door opening onto a veranda. More wonder! The door was opened, but no infernal machine was visible outside, but it was observed that the picture disappeared when the door was open.

"Then we saw that the picture looked like the back of three houses to the north on Melville Avenue," declared Mrs. Reeves to the *Telegram* man; for, like other troubled folks, she had appealed to the *Telegram* for a solution of the problem.

The solution was easy and the ghost soon laid. The lady and her startled family had all been walking about in a camera. The wall took the place of the ground glass or plate. The veranda door keyhole was the lens, which focused perfectly across the room and threw the image of the houses and back yards on Melville Avenue upside down on the wall as any camera would do. It is only in bright sunshine that the picture is visible, and of course the blind of the room must be down.—*Toronto Telegram*.

CAMERA WANTS

Advertisements of the above nature shown below will be inserted under this heading at the rate of fifty cents each insertion, for twenty-five words or less; each additional word, two cents extra, cash with order. Those of positions wanted inserted free. No business advertisements accepted.

RETOUCHING WANTED At home; prompt attention given orders prices; seven years' retouching for Arnold received from city or country; moderate Genthe. Mrs. Anna Josselyn, phone Franklin 7799, 1400 Washington Street, San Francisco, Cal.

10x12 GUNDLACH Rectigraph lens, newly fitted with Iris diaphragm; list \$60.00; will sell for \$25.00. N. C. H., care "Camera Craft," San Francisco, Cal.

FOR SALE 8x10 Cycle pattern camera with No. 12, VIIa convertible lens in Volute shutter, case and 6 holders. 5x7 Pony Premo camera No. 7, French lens in Volute shutter, case and 6 holders. B. & L. extreme wide angle lens, series V in Volute shutter in velvet case. Pair 8-inch condensers with front and bellows, with attachment for holding above condensers, 2 film pack tanks, Nos. 2 and 3, 3 developing machines, Brownie Nos. 1 and 2. One type H Cooper-Hewitt lamp. Any reasonable offer accepted. C. A. Krebaum, La Crosse, Wis.

SALESMAN Wanted To manage exhibit of high-grade photographic and motion picture apparatus at Panama-Pacific Exposition; ten months' opportunity for right man to make good on commission basis. P. P. C., care "Camera Craft," San Francisco, Cal.

BARGAIN PRICE On following almost new goods: Crown tripod No. 2, \$2.50; T. S. Bruce retouching desk, \$8.50; No. 1 Velox amateur printing machine, \$1.25; Ingento Auto print washer, 4x5, 75 cents; Composition in portraiture, \$1.50. Send postal for other photo books and outfits. J. H., Box 1425, Spokane, Wash.

ATTENTION PHOTOGRAPHERS A modern flat, especially built for photographer, to rent at 427 Presidio Ave., San Francisco; studio is large and best lighted in city; worth looking at; owner will fix to suit. See agent or phone Fillmore 1837. Jesse Miller, 507 Mission St., San Francisco, Cal.

POSITION WANTED In studio by young man 21 years old, with object of learning the business. Have had some experience as an amateur, both in taking pictures and finishing. Would prefer work in a San Francisco studio. Address A. C. Fritz, 1809 Oak St., San Francisco, Cal.

FOR RENT Studio in fine location in Springfield, Ill. Has been established thirty years. Finest skylight in the city. Address Berry's Music Store, Springfield, Ill.

POSITION WANTED By photographer of 8 years' experience with some newspaper as staff photographer. Will send samples of work if necessary. Have own Graflex. Address Lock Box 566, Corpus Christi, Texas.

FOR SALE Studio in Missouri town 7,000; modern; rent, heat, water paid to Jan. 1, 1916. \$400.00 cash; reason, poor health. Address Studio, 231 East Broadway, Excelsior Springs, Mo.

RETOUCHING WANTED By young man; piece work; guarantee satisfaction. Prompt attention. Write E. Fong, 45 Waverly Place, San Francisco, Cal.

FOR SALE Studio in a university town with population of three to four thousand. Reason for selling, partner wishes to return South. Address Butler Studio, Vermillion, S. D.

FOR SALE New, never used, XXX No. 5, and No. 7 Goerz Dagor lenses, also 11x14 camera. Great bargains. C. A. Bailey, Cromwell, Conn.

FOR RENT Elegant vacant photo studio on fine business street in Minneapolis; all modern improvements; well located; rent reasonable to right party. For full particulars, address A. Backdahl & Co., 313 Washington Ave. South, Minneapolis, Minn.

FOR SALE Studio outfit up to 8x10; everything necessary for taking first-class pictures; invoices at \$525.00; will take \$350.00 cash. Am compelled to sell out on account of failing eyesight and demand of time for other business. Address C. E. Skog, Clearbrook, Minn.

FOR SALE On account of throat trouble, am compelled to get outside work. My studio is for sale at a very low price. Am situated in the best business section and have best skylight in city. Address E. O. Hindsley, Valley City, N. D.

FOR SALE Photographic equipment and kodak agency, including branch photo car, in a live town of 750 to 800 inhabitants, on the Yellowstone Park trail, at invoice price between \$500.00 and \$700.00; one-half cash, balance to suit purchaser. Am operating three of county's five studios. Electric lights, city water and rent at \$10.00 per month. Christmas business handled for buyer if in need of help. Address J. W., care "Camera Craft," San Francisco, Cal.

FOR SALE Studio in southeastern part of South Dakota; 1,200 inhabitants; good territory to draw from; not run down; cheap rent, and living rooms in connection; no other studio in town. Will sell at a snap; easy terms. Address C. E. R., care "Camera Craft," San Francisco, Cal.

FOR SALE Make me an offer for my photo business at Rockford and Nora Springs, Iowa, and get December trade. Equipped to 8x10 and 11x14. Population, 1,200 each; no competition. Do not write—come and see if you mean business. Box 370, Nora Springs, Iowa.

IMPERIAL VALLEY STUDIO For sale; new, modern building; new 8x10 Century No. 4 outfit, Zeiss Tessar lens, 8x10 view Empire State outfit, R. R. lens and Bausch & Lomb, 5x7, wide-angle lens, new furniture and backgrounds. The only studio in town of 2,000, north light, low rent, long lease. \$445.00 cash. None need apply without the cash. Owner 60 years old and eyesight failing. Particulars, Box 591, Holtville, Imperial Co., Cal.

\$250.00 Takes well-established studio in live, centrally located California city of 4,500. Cheap rent; complete equipment; business here. Address Z. Z., care "Camera Craft," San Francisco, Cal.

POSITION WANTED In San Francisco by experienced finisher and photographer. Can take full charge of finishing plant or kodak store. Good references, moderate wages. Address W. B., care "Camera Craft," San Francisco, Cal.

POSITION WANTED By a retoucher. Can help in all departments. Will come any time. Address Ira A. Hickok, care "Camera Craft," San Francisco, Cal.

5x8 GOERZ Dagor anastigmat No. 3, series 3, in new Optimo shutter; 2 Jena glass ray filters. Cost \$91.00; for \$45.00. G. C. Bishoff, Columbus, Kan.

THE JOURNAL OF
THE L. J. J. J. J.

CAMERA CRAFT



SAN FRANCISCO
CALIFORNIA

A Film Comparison

Photographic
films are
composed of

- 1st—the nitro-cellulose base, that is the transparent, flexible, ribbon-like material;
- 2nd—the sensitive gelatino-bromide emulsion coated on the transparent material;
- 3rd—the paper, wooden spools and other items necessary to produce the daylight cartridge.

The nitro-cellulose base of all good films is made according to and under the Goodwin patent, recently upheld by the courts.

To ascertain the superiority of

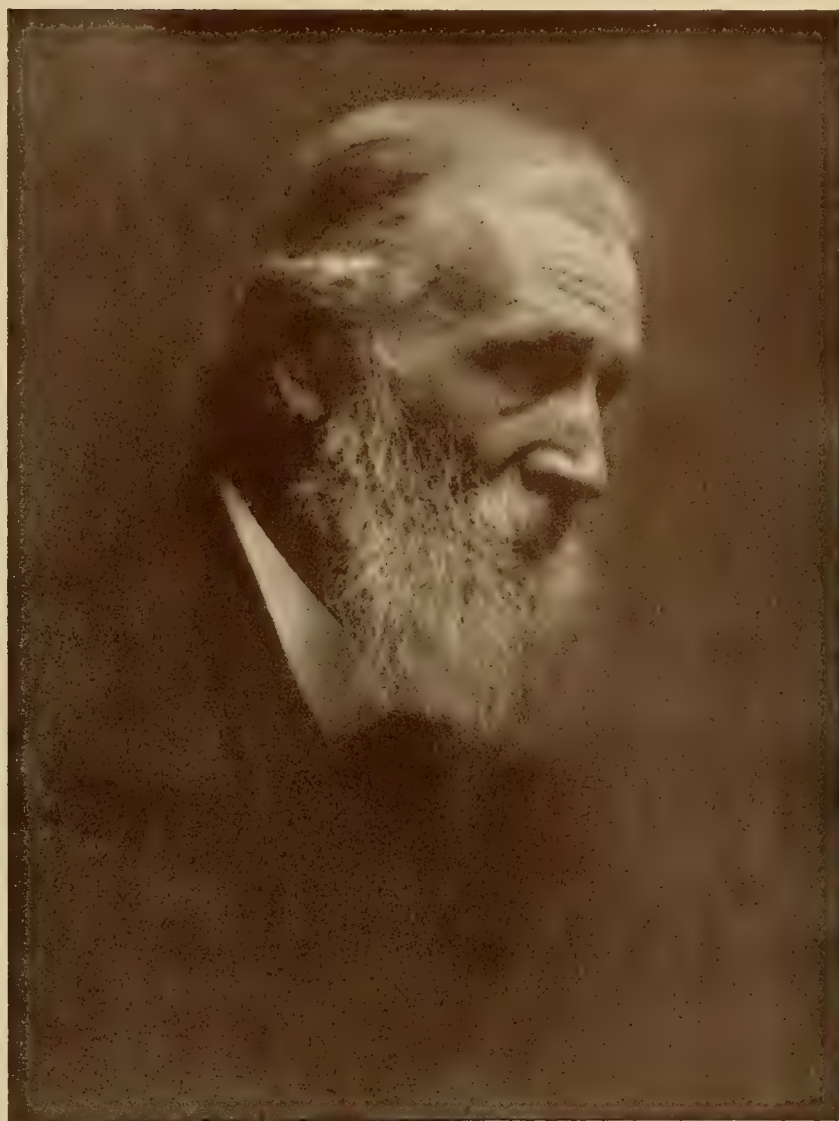
AnSCO Film

made by the Goodwin Film & Camera Co. a simple test is sufficient.

Load your camera with ANSCO FILM, set shutter at, say, $\frac{1}{25}$ of a second and your lens at the largest opening. Snap the entire roll on the same subject decreasing the lens opening for each successive exposure. Then load your camera with the film you wish to compare and expose it immediately on the same subject and in exactly the same way the ANSCO film was exposed.

The result will tell the story.

AnSCO Company, Binghamton, N. Y.



THE LATE JOHN MUIR
By W. E. DASSONVILLE



CAMERA



CRAFT



A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

VOL. XXII

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No. 2

Running a Studio

By Clarence F. Ray



With Illustrations by the Author

To get a fine location, I rented a studio, one with an east light, one that had been a failure for years, despite its being situated in the busiest part of our little city. I put out for my first display as fine a one as I could, replacing it with one made up of striking portraits of well-known local people at the earliest possible moment. There was no waiting for the right subjects to drop in; they were invited in to pose for me, and, getting good negatives, they all bought liberally of the pictures I had made. Small advertisements were placed in both local papers and the publishers were induced to insert small free reading notices of my studio opening. These advertisements I write myself, making them newsy and catchy, preferring my own wording to that of the stock advertisements. These last are usually written to suit so many studios that they really tell very little about any particular one. The way to make advertisements interesting and capable of drawing business is to do something unusually well and then write about it. My specialties are quick exposures and baby pictures.

Six advertising albums are kept circulating by sending them to different houses each day, my boy calling for them a day later. With them go neat little folders describing my work. These small folders are also mailed to people that I believe might be interested in my work, names being obtained from the telephone directory, newspapers, etc. The local papers I read carefully each day, making notes of items promising prospects of business, fol-

lowing up these leads at once. Dances, weddings, banquets and the like. I usually make with flashlight, selling what prints I can. While the work is purely speculative, it not only pays, but it puts me in touch with the people and brings customers to the studio. Everything occurring during the day, everything in the way of a local event, is photographed, also adding to my profits and advertising my work quickly. The Board of Trade is furnished with free photographs to illustrate booklets advertising the town, the understanding being that my name shall appear in or under each cut and that no other photographer's name be so used.

Six senior officers of the Military School were each given a free picture to come to my studio at once upon the opening of the school; and later photographs of all officers and school groups were furnished free in return for the exclusive right to make such photographs. Money was made selling duplicates at good prices. To the local papers I suggested that I would furnish, free, a good picture of any prominent man, woman or child, if they would send them to my studio. Printed orders on myself for one photograph, to be charged to the paper, were furnished, to be given the sitters. Of course, I made no charge, but the order slips were more effective. Practically all the people ordered liberally. The papers place "Photo by Ray" underneath each cut and agree to use no other photographs except mine. With my name appearing under every picture used, this becomes particularly good advertising.

To make a real success of a studio one must do things well and advertise the fact. I often win medals, and naturally do not conceal the fact. Many pictures are sold to publishers, and that means added money and advertising. A studio must be kept in the public notice if it is to be successful in the face of competition, but it is hard to advertise one that has nothing special to recommend. No matter how busy I am, I do some hustling every day. I read the magazines and illustrated papers, thus keeping up with everything going on, and often read of opportunities that, when followed up, bring me both advertising and money. My circle of friends is constantly being enlarged and they send me business.

I do not try to do all the drudgery about the place, thus giving myself time to push schemes that increase business. Even during my busiest season I keep on hustling all the time, slipping in a few prints for new samples or to sell. If one waits until he has nothing else to do he will not accomplish much. I photograph everyone that comes into my studio, if I can do so on any reasonable pretext. Almost everybody will buy good pictures of themselves, once they are finished and shown. I often tell these hesitating ones: "Let me get some good negatives of you now. No obligation to buy any; certainly not until you really desire to do so." Then I make the negatives. I use plates without stint—at least four on each sitter, and often many more, if I think them inclined to buy liberally.

My skylight is a large one, used without curtains and working some distance from its front. I use no head-rest and never tell a sitter to "look at this card," because I do not want them to stare at it. I use the fastest plates, and on bright days catch the grown people, getting well rounded faces, usually

RUNNING A STUDIO



EVERY-DAY WORK UNDER MY EAST LIGHT

at one-half second, using an f-6.8 anastigmatic lens at full opening. A continuous conversation is carried on, thus keeping the sitter's mind off of the fact that he is posing for a picture as much as possible. By so doing, I usually get fine expressions. If I can coax a smile I do so, as good-humored expression remains at the eyes after the lips are again normal. I usually allow no one else in the operating room except the sitter and myself, as others only interfere. One must have unlimited patience under the skylight, but it must be displayed in a good-humored way. I always make the poses that I like. Proofs are shown the next morning, and if a resitting is desired it is cheerfully given, particularly as I am seldom asked to make pictures over. In rare cases, but always when I think necessary, I tell the customer I am not satisfied and request her to return for new poses.

I make it a rule to show samples, make engagements and wait upon my patrons personally from the time they come in until I deliver the finished pictures, never leaving that end of the business to a careless girl. Being often busy in the rear, an electric buzzer, which is instantly answered, allows me to be called. Nearly all of my samples in display case at street entrance are artistically framed, with neat cards printed in colors calling attention to the quality of my work. These cases are kept scrupulously clean, pictures are changed often, and I put in them the kind of pictures that compel attention. Of course, it is impossible to make these pictures please everyone all the time, but one can make such a display that people are bound to discuss it.

My reception room is not so very large, but it is carefully arranged to give visitors a good impression. There is a heavy, artistic mission sofa, a

CAMERA CRAFT

table, chairs, etc., bought in sections and put together by myself, with some inexpensive rugs with green border pattern. The wall covering is an inexpensive but artistic green burlap on which are hung a few striking pictures in correct frames. No trash, no worn furniture and no loose pictures that are soiled by handling. Samples are kept in the drawer of table whereon are a few in large folders and some small separate albums. One of these last contain only poses of children, another of men, and still another of women. A deposit is usually requested, except when making sittings by invitation. But few pictures smaller than cabinets are made, probably because I push that size. When showing samples I speak casually of making old style cabinets, on stiff stock cards, at four and five dollars a dozen, so that the customer will not get the idea that I am high priced; but I bring in my price of six to ten dollars for cabinet so gradually that they unconsciously increase their ideas by several dollars. I get six dollars for cabinets on heavy weight paper, double mounted with deckle edge paper, on a 7x11 crash or crepe finish card, also deckle edge; seven dollars for the same style sepia, and eight dollars for the same sepia on 10x14 folder. Then I get ten dollars a dozen if they prefer the 10x20 folders with triple printed border on 6x9 double-weight paper. If the customer wants to pay still more, I use a large white ground and work in stunning air brush effects, charging about thirteen dollars a dozen. Finished in dainty colors on 10x14 folders the price is eighteen dollars, and on 10x20 folders with triple printed border, twenty dollars. When these better pictures are ordered I get still more by making additional 4x6 prints for a few dollars extra. If they are still willing to pay more, I suggest making larger sizes in proportion. Prices are given merely to show how I secure better orders by starting with the six dollars a dozen kind in good folders and then showing better styles to interest them, than I would were I to offer a shabby, old style picture at four, five or six dollars and then charged ten dollars for pictures in nice folders. I make all of my folders, as by so doing I make my pictures look different from others. My thin crash, crepe or linen finish bristol cards are bought in 22x28 sheets, in large quantities, and cut to any size desired. Artistic cover papers in appropriate colors, to harmonize with any print I may make, are also bought in quantities to lessen cost. I trim each print the shape and size that best suits, and having twin cut-out forms for most ovals, I can have oval insert match the oval print. Each picture is personally signed; and, while I keep an eye upon the entire finishing, I do not let a single picture go out unless it satisfies me. Each picture is protected with a piece of parchment tissue pasted inside the folder cover. I use nothing but gaslight papers and usually have on hand every grade and surface of several of the best makes, so that the best results can be obtained from each negative.

Several kinds of developer, usually metol-hydroquinone, are kept, mixed in different proportions; normal developer, soft developer and contrast developer. I use a printing machine to secure uniform results, and measure the time with a photo chronometer. For convenience I use a developing tank. It enables me to handle a dozen plates at once and minimizes confinement in the darkroom; but I use my regular metol-hydroquinone developer because

RUNNING A STUDIO

I want to see when my plates are finished and avoid buying developing powders and the keeping of solutions at a certain temperature. A good developing tank is a great convenience, and, rightly used, far superior to the tray system.

Special prices are made to theatrical people staying here longer than one night, and a ten-dollar order is often secured from a team at a moving picture theater.

Occasionally I liven up my display with a dainty water color enlargement. So doing not only adds to the reputation of my studio, but results in orders for enlarging. Often the samples themselves are sold, as, naturally, they are well finished. By showing a picture in its proper frame a sale is made for the latter as well, and one can often sell one or two extra color prints after the regular order is shown. Another way to increase sales is to let customers order a single duplicate, or more, at the dozen rate. Many prints are sold in this way, prints that could not be sold if the customer was compelled to purchase six or twelve more. In photographing a lady, if her husband or a friend accompany her, I take the other also if they are at all prepared. First taking a group, I then make individual pictures on speculation, if I can hold them and think prospects are good.

In conclusion, one must continually push the business of his studio, he must use skill and taste, he must use brains, and he must not be afraid of hard work. I am working at something at my studio almost every night. I enjoy the work, it is a comfortable place, and after things are quiet I can mail proofs, make out bills, finish up correspondence and forward finished work. I use lots of plates and find it pays handsomely, as I get larger orders, have fewer resittings and, of course, find it easier to please customers, besides usually getting extra pay for a number of poses. Of course, as I said before, I like the work and I like to take pictures. A photographer who does not is certainly in the wrong business. I am constantly picking up new ideas or revamping old ones, some forgotten years ago, and I am constantly improving both my pictures and methods.





The Photo-Sketch Portrait

By Corydon G. Snyder



With Illustrations by the Author

EDITOR'S NOTE: *With this, the concluding article of Mr. Snyder's series, the author has asked us to tender our readers his apologies for any shortcomings the last few articles have displayed, as, after starting, other work made it impossible for him to prepare the special illustrations necessary with more detailed instruction. Rather than delay the series, we advised that he send along enough to enable our readers to get a good general idea of the several classes of work, feeling sure that those really interested therein would have no objection to the small charge made for such special instruction as they might desire.*

In my previous articles I explained the different methods of combining hand work with the photographic image, together with my classification thereof. As the methods of producing them vary, as well as do the effects obtained, I separated them into three classes: Film-Etching, Photo-Etching, and Photo-Sketch. The first, or Film-Etching, is made on a prepared (exposed and developed) film without any photographic image being sought. This film is employed with the same intent as is the copper plate used in the production of the dry-point etching. The Photo-Etching or negative etching is made by combining an etching line with the photographic image obtained through the camera, as described in the last article.

The Photo-Sketch, the subject of the present article, is the name applied when pencil or wash drawing is combined with the photographic image to give a pencil or wash-drawing effect. The technique of these three processes may overlap each other, it is true, but, ordinarily speaking, they are three distinct processes, each giving its different and individual artistic effect. The Film-Etching, produced by making a negative from a sketch or drawing and then etching over this, may overlap the Photo-Etching method. However, the result would not be a Photo-Etching, strictly speaking, as it would employ no photographic image in the sense that a print from an ordinary negative does.

The Photo-Etching is sometimes made to overlap the Sketch, particularly when it becomes necessary to use a positive plate and a new negative therefrom in order to have portions blocked out or to otherwise get the desired effect without doing all the work on the original negative. The Photo-Sketch process may in turn overlap the Photo-Etching method, as it is frequently necessary to etch some portion of the final negative. The Photo-Sketch, like the pencil sketch or wash-drawing, has a distinctive and original artistic value all its own. When making them, it is neither necessary nor advisable to attempt imitating the Photo-Etching effect. There are two methods of handling that part of the work which gives the "sketch" effect. One can either do the work on a positive plate or on a print from the original negative. Of course, a final negative is made in either case.

THE PHOTO-SKETCH PORTRAIT



PHOTO-SKETCH—Produced by working in pencil on a plate positive, afterward making a contact negative therefrom.



PHOTO-SKETCH—Made by doing pencil work on print and then copying for a new or final negative. The most common procedure.



PHOTOGRAPH AND PHOTO-SKETCH OF MISS MARY RYAN. The Photo-Sketch shows wash drawing effect in drapery and background and the raising of the high lights in the drapery by a little work on the copy negative.

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If the positive plate is to be used, made either by contact or through the enlarging camera, it must first have all undesired portions blocked out with opaque. To do this successfully, one needs some instruction from an experienced worker in order to avoid hard, sharp lines forming the outline of the face and shoulders. The positive plate, properly made, will be in the form of an image, with properly softened outline, of the portions wanted, the remainder being practically clear glass. Upon this clear glass portion of the film the desired amount of pencil sketching is done after a coating of some good negative varnish is applied. Here again a little instruction based upon a properly sketched effect enables one to achieve good results. When wash-drawing effects are desired, the positive plate method will have to be abandoned because it is practically impossible to get the effect of wash color on the gelatine film of the plate. Taking the original negative with the undesired properly effaced, a print is made therefrom and on this the desired wash-drawing additions are made. This work is only adapted to those having some knowledge of painting, but the amount of skill required is easily gained by a little help from a teacher. From this a new negative is made and the required number of Photo-Sketch prints easily produced.

In my own practice I prefer to make a print from the original opaqued negative and use it as a basis for either the wash or pencil effects, even when it becomes necessary to take extra care to avoid flatness in the copy negative through the original lacking somewhat in contrast. As a rule, the positive plate retains nearly all the brilliancy of the original negative; and, where it is important that this be retained, it is sometimes necessary to do the pencil work thereon instead of on a print. On the other hand, the flatness caused by copying the print is frequently not objectionable, but rather, just the desired effect. A slight flattening of the original also gives one a chance to strengthen or lift the high lights, if that be desired, by work on the final negative.

TO A PHOTOGRAPHER

I have known joy and woe and toil and fight;
I have lived largely, I have dreamed and planned,
And Time, the Sculptor, with a master hand,
Upon my face has wrought for all men's sight
The lines and seams of Life, of growth and blight,
Of struggle and of service and command;
And now you show me This—this waxen, bland
And placid—unlined, untroubled, white!
This is not I—this fatuous face you show
Retouched and prettified and smoothed to please.
Put back the wrinkles and the lines I know,
I have spent blood and brain achieving these;
Out of the pain, the sorrow and the wrack,
They are my scars of battle—PUT THEM BACK!

—BERTON BRADLEY in *Harper's Weekly*.

A Case of Cameraphobia

By C. J. Stilwell



With Illustrations by the Author

Help! I'm in for it, I see, but may my sins be upon the head of the editor, for he dragged it from me. I'm elected to tell my amateurish experiences with a camera, and I'll be frank in saying I did my best to beg off on account of being a rank amateur, but the editor wouldn't have it—no, sir, not he! He said the more of an amateur I am the better he likes it, but I know I'll suit him too well.

The attack of the "camera bug" upon me was very sudden and entirely unsuspected. Why I should have been picked out as a victim I cannot say, but he gumshoed up to me, as it were, and the first thing I realized I was inoculated with the camera fever: dread malady! So I proceeded to dig up a few friends who were "camera artists," and asked their advice. I got it, yards and yards of it. I listened long and patiently, and was then tempted to follow Mark Twain's motto: "Get all the advice you can; then do as you d— please." But one friend gave me a pointer which stuck in my memory: "No matter what camera you get, get one as good as you can afford," and as I thought a post-



A QUIET GAME AT HOME

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card size was about my size and as good as I could afford, I hied me forth and squandered twenty dollars for a 3A Kodak. But I considered it a good squander, as is proven by the fact that shortly afterward I exchanged that camera, plus five dollars, for a 3A with a better shutter.

Before trying many pictures, I bought several books treating photography from the amateur's standpoint, and did my best to absorb the fundamental rules of procedure. Then a friend gave me a couple of copies of CAMERA CRAFT, and it had the honor of being the first "cameramag" to which I subscribed. I imposed on all the lens and camera dealers I could locate for copies of their catalogues, but in this way picked up a good deal of information as I went along. A little spare time spent in "reading up" before plunging too deeply will never be regretted.

It is astonishing how little effort is made by some folks to learn the details of the camera they buy, with the result that they "go it blind" from the start. I talked with a man the other day who said he had used his camera for twelve or thirteen years, "but never had much success with it." He then went on to say that it was only during the past summer, and then by accident, that he discovered his camera had a diaphragm adjustable to different-sized openings. And he is a well-educated business man, too, but simply didn't devote a little time to "reading up" on his camera. Is it any wonder he "never had much success with it"? And think of the dollars' worth of plates he wasted, or the enjoyment he missed through not knowing how to properly use his camera. But hold on; I'm talking as if I knew something about it myself.

It was late summer when I acquired my kodak, and it had been in my possession but a few days when I had occasion to make a short visit to a small lakeside resort. Here, thought I, was a fine opportunity to try my hand at picture taking. I thought the shutter set at a hundredth of a second was fast enough for anything, so one of the first things I did was to try some "shots" at fisher folk on the bank while passing them broadside in a power boat. When I made prints from these films (for of course I had to see them in black and white), they looked like a strong wind was blowing the landscape off the map. But in other attempts, in spite of over-exposure on account of the strong light on the water, I was more successful, and I have some mighty pleasant remembrances of the trip.

Soon after this I thought some "night picture" trials worthy of my attention, so I spent a couple of evenings and a couple of rolls of speed film in the attempt to record the lights and decorations in the down-town district. One or two were fair, but the others were hopeless, and even the best of them showed halos or large rings on the film, possibly caused by automobile lights coming into range, as I could in no other way account for them. But I am not a diagnostician of the ills which films are heir to, so I am open to correction.

At first I did all my developing by the tray method, but after a while began to inquire into the film-tank, only to find that one friend "wouldn't have one as a Christmas present," as he expressed it, while another liked it immensely. After pausing between two fires for a while, I decided to give it a trial for myself, and I have been glad ever since that I did. The only trouble I ever had

A CASE OF CAMERAPHOBIA



HIS NAME IS "TIGER"

JUST DROWNIN' A WORM



"A TALE OF ABSORBING INTEREST"

with the film-tank was from careless use of the pyro developing powders and having stained films as a result.

For my prints I generally use Azo paper, developed with M-Q tubes, as I do not use sufficient quantities of developer to make it worth while to mix it myself. Some of these days, however, when I feel justified, I intend to invest in a pair of scales and compound my own solutions. My mother says: "If you keep on you'll have to build an addition to the house to hold your photographic stuff."

I had but little opportunity to get out into the country for views of scenery on account of the fall weather being very rainy and disagreeable, but after a couple of tramps on bright days I decided that to be too lonesome a task for me, and I gave it up for the time. On one or two occasions while on Sunday auto trips, I secured views of picturesque spots upon which we happened to come en route. On the whole, however, my scenic attempts were not much. I'll make other attempts, though, when the good old summer time rolls around again. So far this winter I have been unable to secure any snow scenes on account of lack of the chief element, snow, when I have time to go after them.

• For quite a while my experience was "all going out, etc.," until one day one of the factory foremen suggested that I try a picture of his force of men, at noon. While I had my hand in, I decided to cover the whole ground, and in three noon-hours I secured six views of as many departments of the factory force, numbering about a hundred men in all. I was lucky enough to secure good prints from all exposures, and I found that nine out of ten men wanted a single card or set of them, so I took orders for about three hundred post cards and, after staying up until two a. m. to print the required number, I secured by this one effort an amount sufficient to pay the original cost of my camera. If a person has the time, he will find he can build quite a little clientele, and without coming into competition with his local professional friend, among persons who want views of their families, pets, or homes; and at holiday time some extra pin money may be earned by choosing a good print, mounting it in a calendar and showing it to the persons interested, when in most cases an order is assured. All work that would never reach the professional, because the demand is too dormant.

Shortly before Christmas, I pounced upon flashlights as a fit subject for my attention, as I knew I could not do worse than I had, at times, along the other lines; so at the request of some young ladies of the Y. W. C. A. I agreed to attempt some flashes of the stage setting of an entertainment they were preparing to give. I think Teddy R. has nothing on me for nerve; for, after securing a Victor flash-lamp and a supply of powder, I tried one lonesome flash on the folks at home as a test and then sallied forth. But I had beginner's luck, and while the resultant films could have been better, they might have been very, very much worse, and all concerned seemed perfectly satisfied with the prints I made. Since then I have taken a number of flashlight views, and nearly all have turned out well. I enjoy taking flashlights of little home gatherings of friends, etc., at which I may be present, and these pictures recall many pleasant occasions which would otherwise be soon forgotten. It is an easy

A CASE OF CAMERAPHOBIA



A GAME OF "DROP THE HANDKERCHIEF"

matter to prepare the flash-lamp and take a quick flash, requiring only a very few minutes.

My greatest pleasure, however, lies in taking snapshots of the neighborhood children at play. It is a hard thing to get successful pictures of this sort, as the little folks are "all eyes" for the camera instead of being interested in their games, but I find if I can spend some time among them, they gradually get their minds off the camera and back to their play, and some interesting and amusing views can be taken. Several times lately I have failed at such snapshots on account of the weakness of the light at this season, but one successful picture makes up for a number of failures.



THE KIDS ON THE BLOCK

As a Christmas present, a friend whom I succeeded in interesting in photography presented me with a No. 4 Brownie enlarging camera, and while I have so far found but one opportunity to make use of it, I anticipate a great deal of pleasure in making enlargements from some of the films I have.

During the short time I have had my camera, I have derived much enjoy-



"WHO'S PIGEON-TOED?"

JUST KIDS

ment from it, and some profit, and during the summer to come I hope to do more "execution" with it. If I do, I suppose I will have to keep it dark from Mr. Clute, or he will be after me hot foot to do another scribble for his pages. Some are born to publicity, it seems; others acquire it, while a few of us have it thrust upon us.

But man is never satisfied, especially if he be a camera man, and my great desire just now is for a speed camera. The focal-plane camera especially appeals to me. I think a No. 0 Graphic would suit me to a "T," as it is compact, portable and suitable for the most exacting and difficult work, while the small films can be enlarged with little trouble if so desired. But here I am talking like a catalogue. My wants will have to wait, I'm afraid, as I am not yet among the plutocrats, but oh, Good Fairy, if you peruse these lines, please paste this in your bonnet: "Stilwell is a cameraphiend; he's glad of it; and—he wants a Graphic."

No man can make a success of any work if he cannot become enthusiastic about it; and you cannot become enthusiastic unless you like your work. Enthusiasm is necessary to make a success of it.

No man does so well as he might do if he is working at one thing and wishes he was doing something else. Study the work you are doing. Find out if you are doing it the right way. Try to discover a better way of doing it.

As soon as a man gets it through his head that there is a right way and a wrong way to every job, that man has taken the first step toward making his job interesting.—JOHN M. BROCK.

Parisian Art or Crystoleums

By Theodore E. Peiser



A MERRY WIDOW

By CLAUD H. SIMSON

PAINTING on glass by transfer is an old process, one in which albumen paper was the kind used; and, even now, if it can be obtained, such paper gives the best results. This is for two reasons; first, because the albumen film is a more permanent picture, and, second, because the paper backing is thinner and more easily removed. But there are some developing papers which will be found to answer the requirements fairly well if not entirely satisfactorily.

The first thing to do, if the picture be a mounted one, is to remove it from the card. Any one exercising ordinary care can do this without much difficulty, while dry. To make sure, however, put it into a basin of warm, not hot, water, and leave it severely alone for an hour or two. By this time the paste will have been soaked sufficiently to allow the picture being easily removed. Then wipe all the paste from

the back of the print, doing it thoroughly; finally placing the print between blotters to free it from surplus water, yet allowing it to remain damp.

The glass to be used, convex or flat, should be free from flaws and of good quality; common, cheap window glass, full of bubbles, flaws, and unevenness, will not answer. That used should be slightly warmed, coated with warm gelatine and slightly drained. This gelatine solution is made by placing one-half ounce of cooking gelatine in some water to swell for a few hours and then adding water in a water bath until of the consistency of mucilage. Lay the moist print on with a rolling motion, so as to avoid as much as possible the formation of air bells. To make doubly sure that none remain, squeegee the back of the print, examining the face through the glass meanwhile; then let stand until print is thoroughly dry. In the old days the paper was carefully rubbed off the print as it lay on the glass, while wet. This made it easier to translucify with the material then used, castor oil. This better method calls for a translucifying solution made by heating together two and one-half ounces of Canada balsam, one ounce paraffin wax and one ounce of white wax. This may possibly be obtained at some of the photographic supply houses. If not obtain-

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able, use castor oil; but this last will not insure a thoroughly permanent painting, as it will cause bubbles of air and discolorations to show in time. The translucentifier must be rubbed over the back of the picture until the latter is completely transparent everywhere; then wipe off the surplus with a soft cloth or bit of absorbent cotton. The picture is then ready for the painting process.

Two glasses, of even size, must be used; the second to lay on the back of the first or one carrying the picture. The photograph or picture, even a print from a newspaper can be used, will be between the glasses, and when these two are securely joined together with binding strips, becomes better protected from all atmospheric influences.

Paint the eyes, lips, jewelry, laces and flowers directly on the back of the print or picture, using Winsor and Newton's water colors. Oil colors must be used on the back of the second glass for the other and broader masses. The colors to be used are silver white, white, vermilion, blue, Naples yellow, Vandyke brown, black, crimson lake, and red. In painting portraits, use the straight water colors first on the back of the print or picture. The paper will do the softening. The softer colors are put on the back of the second glass; for these, use the oil colors only. The two glasses must be bound together with adhesive strips before the second painting of glass is started upon. Care must be taken not to over-color, as this is, and has been, a too common fault, often spoiling what would otherwise be a good picture.

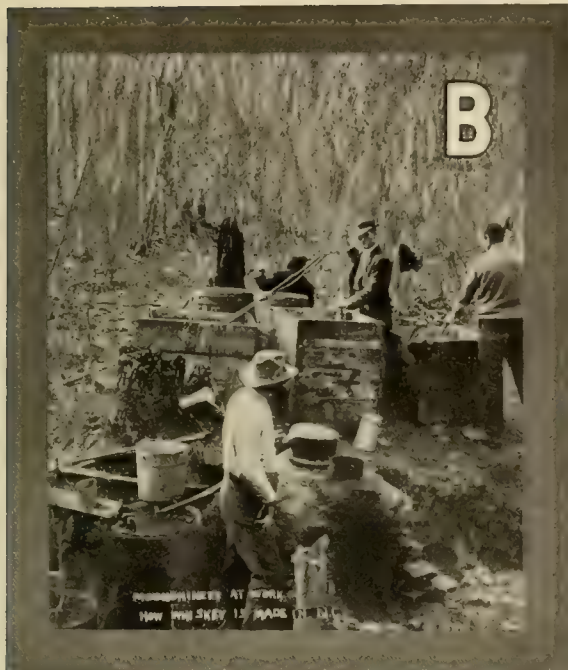
Following are directions for mixing the colors for portraits. Flesh: Silver white, tinted with vermilion and Naples yellow. Blonde hair: Naples yellow tinted with Vandyke brown. Brown hair: Vandyke brown tinted with Naples yellow. Black hair: Vandyke brown. Gray hair: Silver white tinted with a little Vandyke brown and blue. Blue eyes: Blue, toning with black and white. Gray or hazel eyes: Blue, toning with brown, white and yellow. Lips: Crimson lake or vermilion. Jewelry: Yellow, toning with red. Laces and collars: White.

For landscape painting do not use too brilliant colors except to touch up flowers, trees and grass in the immediate foreground. Mix the colors as follows: Buff: White, yellow and red. Chestnut: Red, black and yellow. Drab: White, yellow, red and black. Purple: Vermilion and blue. Rose: White and lake. Gold: Yellow and red. Green: Yellow and blue. Olive: Yellow, blue, black and white. Orange: Yellow and red. Pink: White, vermilion and blue. Gray: White with a little Vandyke brown and blue. A little practice will soon accustom one to judge the right proportions. There are no exact rules by which one can progress, and success is only achieved educating the eyes to appreciate proper tones and tints. If one be color blind, he had better get some one else to do his coloring,—and it is astonishing how many people are at least partially color blind.

Though all the winds of doctrine were let loose to play upon the earth, so Truth be in the field, we do ingloriously by licensing and prohibiting to misdoubt her strength. Let her and Falsehood grapple; who ever know Truth put to the worse in a free and open encounter?—MILTON.

Toning Developing Papers

By Rich Lucas



MOONSHINERS

By THOMAS D. MOORE

OTH the amateurs and the professional photographers many times desire other than black-and-white prints on developing paper or post cards of the same character. Many pleasing colors are not at all hard to obtain and in many cases the departure gives very gratifying results. To the amateur this opens a new line of experimental photography which should be greatly enjoyed, particularly as it enables him to give his work added interest. Giving his prints a variety as to colors permits him to suit his fancy and thereby display more taste in selection. To the professional, the use of the required solutions enables him to more easily suit his customers and also to obtain a larger price and profit for his

work. This is especially so with the sepia tone, which many prefer to the ordinary black and white.

In mixing these solutions, it should always be remembered that distilled or otherwise pure water must be used in order to obtain satisfactory results. While any pure water will answer, it is best to employ that which has been distilled, as this process removes any mineral salts that might perhaps interfere with the proper working of the chemicals. The solid content of these formulas is all based upon the avoirdupois standard of four hundred and thirty-seven and one-half grains to the ounce, so that where a fraction of an ounce is given, this amount should be divided to obtain the number of grains.

To start with, we will consider the bath for sepia tones. Those trying the following formula will find it produces very pleasing and lasting tones. Prints to be toned should be handled as though they were to be left untoned; that is, developed, well fixed and thoroughly washed, after which they are ready for immersion in any of the following baths. Even prints that have been made for

some time can be toned, but in such case they should first be soaked until thoroughly saturated, after which they are ready for toning.

The toning bath for sepia prints is made as follows: To a solution of ten grains of silver nitrate in one-half ounce of pure water, add stronger ammonia water until the solution clarifies, stirring well meanwhile. Then add to this silver solution the following, which has previously been prepared with all chemicals thoroughly dissolved: Pure water, forty ounces; hypo, seven and one-half ounces; alum, one and three-quarter ounces, and potassium iodide, twenty-four grains. When these two solutions are mixed, they should be well and thoroughly heated, not too hot, however; say about one hundred and forty degrees Fahrenheit. When cool, it can be bottled and set aside.

When ready to use, place this solution in an enameled tray, carefully heat to approximately one hundred and twenty degrees and keep there while using. At this temperature the bath will become creamy in color, which is proper. Place the prints face up in this bath, moving them from time to time in order that all of them will be evenly subjected to the chemical action. If well and properly handled, the prints will tone to the required shade in fifteen to twenty-five minutes. They are then to be removed, thoroughly washed through several changes of pure water and finally dried.

A green tone, well suited to marine as well as other subjects, is secured as follows: Dissolve twenty-five grains of vanadium chloride in as small a quantity of a hot solution of three parts hydrochloric acid and one part pure water as will dissolve it. Next dissolve one hundred and fifty grains of C. P. oxalic acid, twenty grains of red prussiate of potassium (potassium ferricyanide), twenty grains of iron perchloride (ferri chloridum), and ten grains of iron oxalate (ferric oxalas), in twenty ounces of pure water. As soon as these are all thoroughly dissolved, the solution of vanadium chloride is to be added and thoroughly incorporated, when the bath is ready for use.



SOME CHILD PORTRAITURE

By CLAUD H. SIMSON

TONING DEVELOPING PAPERS

Tone the prints in this bath until they become quite blue, remove and wash in pure water, where the tone changes to green. The yellow stains in the whites are removed by soaking in a weak solution of ammonia sulpho-cyanide in pure water. The prints are then to be thoroughly washed and dried.

For blue tones I would recommend trying the following, the prints to be toned being lightly printed ones, as they are intensified somewhat in process: Thoroughly dissolve one-tenth ounce of acetic acid and forty-four grains each of iron and ammonia citrate (ammonia-ferric citrate) and red prussiate of potash (potassium ferricyanide), in ten ounces of pure water. Soak the prints in this bath until the desired color is obtained, then thoroughly wash and dry.

To obtain a red tone the first step is to tone the prints in the sulphide or A bath given below; place them therein until thoroughly bleached, remove, wash until the whites are again clear. Next, immerse them in the B solution for a couple of minutes, remove, and upon being thoroughly washed they are ready for the C or toning bath given below.

A: Water, pure	10 ounces
Potassium bromide	100 grains
Potassium ferricyanide	75 grains
B: Water, pure	10 ounces
Sodium sulphide	25 grains
C: Water, pure	10 ounces
Gold chloride	10 grains
Ammonium sulphocyanide	100 grains

After toning in this last bath until the desired tone is obtained, remove, wash thoroughly and dry.



FIXING THE BOW

By ALBERT J. SNOW



Using Mirrors in Stereoscopic Work

By Albert J. Snow



With Illustrations by the Author

For some time past it has been my aim to stray away from the practice of the average man who contents himself with the making of simple pictures, who is satisfied to find the landscape is beautiful, the flowers are perfect, or, maybe, the girl quite charming. All these, and such subjects as waterfalls, river scenes, seascapes and interesting interiors, are plentiful here in England, and I have no doubt the same in your country. At any rate, while I still use these subjects to some extent as a base, I find myself inclined to explore side paths, as it were, by adding or combining objects that may give some degree of novelty to my collection of stereoscopic slides. I am sending herewith two or three examples of the use of mirrors, and will later send a few others that are also a departure from the usual thing.

The first, entitled "Honesty and the Dark Side of It," was made at three-thirty P. M. in September, under a fair light, with stop f-16 and an exposure of one-half minute. The lenses were of six inches focus with a separation of two and one-quarter inches, a Barnett extra rapid ortho being used. To produce the reflections, I used a mirror made by coating the back of a sheet of plate glass



HONESTY AND THE DARK SIDE OF IT

By ALBERT J. SNOW

with Japan Black. This gives reflections that are dark instead of a light nature as are those shown in the next illustration. "Gladioli and Mirror Reflections" was made by placing the spike of flowers before an ordinary silver mirror, and shows clearly the difference between the reflection of such a mirror and the one used in making the other picture. "Fixing the Bow" shows the use of a mirror introduced in home portraiture. This is but a suggestion of the almost numberless ways in which a mirror can be used in this class of work and one needs only to examine this in a stereoscope in order to appreciate how greatly it adds to the stereoscopic effect.

Two Golden Days

There are two days of the week upon which and about which I never worry—two care-free days, kept sacredly free from fear and apprehension.

One of these days is yesterday. Yesterday, with all its cares and frets, with all its pains and aches, all its faults, its mistakes and blunders, has passed forever beyond the reach of my recall. Save for the beautiful memories, sweet and tender, that linger like the perfume of roses in the heart of the day that is gone, I have nothing to do with yesterday. It was mine; it is God's.

And the other day I do not worry about is tomorrow. Tomorrow, with all its possible adversities, its burdens, its perils, its large promise and poor performance, its failures and mistakes, is as far beyond the reach of my mastery as its dead sister, yesterday. Its sun will rise in roseate splendor, or behind a mass of weeping clouds. Tomorrow—it is God's day. It will be mine.—
ROBERT J. BURDETTE.



GLADIOLI AND MIRROR REFLECTION

By ALBERT J. SNOW

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

REMOVING FILM FROM OLD NEGATIVES: I have tried the several different methods suggested for removing film from useless negatives, including those recently given by Dr. Power and W. E. R. in these pages. However, I have been more successful and better satisfied with my own method, which involves only the soaking of the negatives in hot water until the film is soft and then using one of these rubber sink scrapers put on the market a few years ago and for sale at most house-furnishing departments.—H. R., Iowa.

MAGIC PHOTOGRAPHS: Make the print on printing-out paper in the usual way and fix without toning. After washing, immerse in a saturated solution of mercuric chloride, which will render it invisible; wash, dry and put away until wanted. To make the picture appear, wet the print and place between a couple of blotters that have been soaked in hypo solution and dried, with a weight—a heavy book will do—on top. Allowing it to stand a few minutes, the picture will be seen when the print is removed from between the blotters.—Theo. E. Peiser, California.

A PLATE BACKING: A friend of mine, one who is a skilled amateur, uses a backing for his plates that is made according to the following formula:

Powdered castile soap.....	½ ounce
Alcohol	5 ounces

This is allowed two weeks in which to dissolve, the bottle meanwhile being shaken occasionally. Then, to two ounces of the clear solution add ten grains of Erythrosyn and a like amount of Aurin. This completes the mixture, which is applied to the back of the plates with a brush, and I believe dries quickly. I feel safe in recommending the above because I have seen his results, which are quite remarkable.—V. A. Wood, New Jersey.

STEADYING THE TRIPOD: The paragraph, by C. J. Hibbard, in a recent issue suggests that my own plan might be interesting, although it be employed to overcome a somewhat different trouble. All that is required is about ten feet of strong cord. Three pieces are cut, one end of each being attached a little above the center of each tripod leg and the loose ends tied together at what is the center when the tripod is set up. At this center knot the end of another piece is tied, a piece about five feet long. With the tripod adjusted and this longer string hanging down on the ground, the loose end is picked up, the foot placed on the loop portion formed so as to hold it there. Pulling on the picked-up end gives a good tension, and by pressing down on the loop with the foot the camera is not only held down firmly, but each of the three tripod legs are strained and rendered more rigid. I have seen it advised to suspend a

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weight from the tripod head, but this plan brings an entirely different form of strain upon the legs and renders them more susceptible to vibration than without.—G. H. J., Oregon.

PRINTS FOR NEWSPAPERS: Some months ago I tried repeatedly to get some of my pictures accepted by various publications, but without success. Equipping myself with an enlarging apparatus, I tried the experiment of sending in small enlargements, prints about half as large again as I thought the publishers would want to reproduce them, judging from like pictures that they had accepted and used. Much to my delight, the new form of prints met with a much better reception, several being accepted in rapid succession. In fact, in two or three cases I slightly enlarged several pictures and sent them to the same publishers who had before declined them, only to have them accepted. The suggestion may help some other worker who is desirous of seeing his work reproduced and perhaps bring him in some monetary reward.—W. E. R., California.

PRINTING ON SILK: Make up a solution as follows:

Boiling water	20 ounces
Chloride of ammonia.....	160 grains
Iceland moss	60 grains

When nearly cold, filter, and immerse the silk for fifteen minutes; sensitize for fifteen minutes with an acid, twenty grains to the ounce silver bath. When dry, stretch over cardboard and print deeper than for paper prints. Wash out the free silver and tone in a bath consisting of:

Water	20 ounces
Acetate of soda.....	2 drams
Chloride of gold.....	3 grains
Common whiting or chalk.....	4 or 5 grains

Follow with fixing and washing as for silver paper.—Theo. E. Peiser, California.

MAKING NIGHT SCENES: Acting upon a suggestion made in one of the foreign journals some few years ago, I have been trying out an old "single" lens on street scenes and the like, made at night. This particular one has a focal length of about twice the base line of my plate and consequently gives unusually good perspective effects. In addition, the increased distance demanded is generally very effective in removing the danger of strong light entering from the side of the lens. But the main advantage lies in the seemingly quite remarkable diminution of flare and halation. This is due to the lesser number of surfaces in the single lens as well as to the hooded form of protection afforded the front of the lens by the long barrel of this type of lens. I have intended making comparative pictures, one taken with an ordinary anastigmat and the other of the same subject with this old "single" lens, but opportunity has not permitted. However, as these lenses can be picked up of the dealers in second-hand apparatus quite cheaply and as they are admirably suited to landscape work as well, I would advise every worker to secure one and give it a trial.—D. F. G., New York.

AN IMPROVISED PINHOLE LENS: Reading an article on pinhole photography in these pages, I became very much interested in the subject. However, I wished to avoid either the trouble of fixing up a pinhole lens or the

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expense of purchasing one of the several good instruments on the market. I proceeded to take the old lens and shutter out of my Korona camera and remove the metal ring which screws on the shutter and holds it in. I then cut a piece of thin sheet copper to fit the ring, and in the center of it made a hole with a number ten needle. Around the edge of the copper disk I put adhesive tape to exclude any light that might enter through it not being a perfect fit, blackening this sheet of copper with ordinary stove polish completed the operation. It then only remained to fit it into the opening in the lens-board and tack it temporarily in place. The camera being equipped with a bellows gives me a greater choice of range, as racking the front-board in and out gives a larger or smaller picture, while the image can be more satisfactorily arranged. With the bellows drawn together, a larger image is secured, but the effect is softer than when a greater extension is used and a smaller image obtained.—G. C., Ohio.

WASHING NEGATIVES: Like many other workers no doubt, I have recently had considerable curiosity as to the efficiency of several forms of plate-washing boxes that I had under consideration. What I wanted to know was the relative efficiency of a slow as against a fast flow of water, as between a box draining from the top and from the bottom, and as between the box always full and the one periodically drained by means of an automatic siphon such as was described some years ago in these pages. How to do this was a problem until I hit upon the plan of soaking the waste plates I used for the experiments in a strong solution of ordinary wash blue. These waste plates were some undeveloped ones that I fixed in a plain solution of hypo so as not to harden the film, and then washed as usual. By staining two of them alike in the wash blue it was an easy matter to determine by their appearance, as washing proceeded, just how long it took to entirely remove the blue and also to determine the comparative efficiency of the washing boxes being tested. I might add that the siphon actuated one was found much superior to any of the other forms tested by me.—J. K. L., Minnesota.

A PLIABLE BACKGROUND: I have always wanted a lantern screen that could be rolled up out of the way when not in use and one that would not easily crack if it became wrinkled a little in the process. Another lantern slide man gave me a formula which he had clipped from some journal, and I tried it with the best of results. The mixture is compounded as follows:

Glycerine	1 pound
White glue	1 pound
French zinc oxide.....	2 pounds
Hot water	1 gallon

The glue, of course, should be dissolved by heat in a portion of the water and the glycerine well worked in. The mixture is applied while hot. The cloth should be tightly stretched on a frame during the process of painting and drying. And here is a hint as to the tacking on of the sheet. Do not try to start at one corner and follow along one edge in tacking to the frame. Place a tack or two at each corner and then tack half way between on each edge. Then place a tack half way between each tack already in place. The result will be an even, tight surface, one impossible of attainment by tacking along one side at a time.—A. W. E., Indiana.

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San Francisco, California, February, 1915

No. 2

Foreign Business

Since going to press with the last issue, we have had the pleasure of putting several gentlemen, visitors from Australia and other foreign points, representing large buyers of photographic goods, in touch with leading manufacturers in this country. Others have written us asking for the names and addresses of our prominent manufacturers, and these have gladly been supplied. One of these letters seems to demand publication and is therefore given below. Our wide foreign circulation and the large amount of advertising carried are no doubt responsible for this display of confidence.

ALDO P. ZUCCHI,
23 Viale Bianca Maria,
Milano, Italy.

28th November, 1914.

Camera Craft,
San Francisco, California.

DEAR SIR:

I am one of the largest consumers of photographic materials and I wish to communicate with a few of the most important American firms with the object of buying these materials that we cannot obtain from England, Germany and France on account of the war.

The present situation affords a good opportunity for high-class American manufacturers of these articles, and for this reason be so kind as to mention in your valuable periodical the fact that American firms producing photographic materials could no doubt find a very profitable market in Italy.

I thank you in advance for the favor and would ask that you please send me duplicates of your September and October numbers.

Yours truly,

(Signed) ALDO P. ZUCCHI.

That Charge For Accepted Photographs

Under the heading of "Photography at Our Coming Exposition," we gave, in this department last month, the text of a letter sent out under date of December first by the Department of Liberal Arts to intended and prospective exhibitors in Class 124, Pictorial Photography. Not a few recipients of the original letter and some few who read it for the first time in our pages, pictorial workers of sufficient renown and enough numerical strength to overcome our own disinclination to in any way obstruct the possible success in any detail of our own Exposition, have written to express their dissatisfaction at the "flat charge of one dollar per photograph" on pictures accepted. From these letters we have selected the one printed below, not because it was the longest or by reason of Mr. Blumann's prominence, but simply because it seems to include most of the contentions made by the others together with a few illuminating side-lights of its own. In printing this letter as we do, we wish it distinctly understood that with an answer thereto, should one be made, given space in our next issue, the matter closes as one of either right or wrong as each individual reader may elect to determine. We, of course, have our own opinion, one that may or may

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not be expressed as other considerations may dictate, but our readers cannot accuse us of a failure to place both sides of the question before them because of our own earnest desire to do all in our power to make our coming Exposition an unqualified success. Mr. Blumann's letter follows:

"My Dear Mr. Clute:

"For some months previous to August tenth, rumors had come to me of difficulties and doubts encountered by the Exposition Committee, in the throes of whose labor a Pictorial exhibit of Photography should be born. There was doubt as to whether such an exhibit should be placed among the fine arts, among the commercial photographs, or in the machinery building among pumps and engines. There were difficulties in understanding what a pictorial photograph was, and later, greater difficulties in getting at pictorial photographers to induce them to contribute their work to the show. It was at this stage that the writer made the big mistake. Being somehow impressed with the idea that the Exposition management wanted a Pictorial exhibit I gave my time, stationery and postage to a campaign of which, no doubt, many of your readers are informed, to create a popularity among the best artists for the Pictorial Section. This effort was made unasked and was continued in the quietest way, being directed definitely to the points of greatest advantage.

"On August tenth, 1914, a letter came to me from Mr. Theodore Hardee, from which I quote word for word, omitting no sentence that could change the sense or intention.

"I take pleasure in handing you herewith a blank application for exhibit space, which I would be glad to have you fill out, sign and return to me as soon as possible.

"According to present plans we expect to provide a suitable gallery for the display of carefully selected Pictorial photographs. The only expense to the exhibitor would be the cost of transportation and the frames; the latter to be selected by us here to harmonize with the desired installation.

"Portrait and Commercial Photographers and equipment manufacturers will, however, be required to erect booths at their own expense and defray the cost of transporting and maintaining their exhibit."

"Nothing could be fairer. I went at my self-imposed task with renewed industry and sent what personal influence I had, what persuasion I could muster, and all the argument at my command to the far corners of this country and those of other continents, to the end that a deluge of requests for application blanks for space must have come upon the Chief of Liberal Arts. That was my second big mistake. And here the Exposition Powers made their first error. They evidently conceived an idea that all this agitation for space must mean that the Pictorialists were rabid to exhibit and being so might be made into an immediate asset, not as part of the Exposition but as dupes to be mulcted for 'honors' at so much per 'honor.'

"Followed another letter from Mr. Theodore Hardee, dated December third, 1914, from which I quote, again careful to retain the meaning of the writer thereof.

"All photographs to be expressed (charges prepaid) without frames. A flat charge of two dollars will be made by this department for EACH (the capitals are Mr. Hardee's not mine) photograph exhibited, whether large or small, to cover the cost of framing, hanging and maintenance. This remittance should be sent at the same time as the photographs.

"If exhibitors are especially desirous of sending their pictures already framed they may do so and a flat charge of one dollar per photograph will be made."

"To this startling proposition I hastened to send the following reply. It was a serious matter to me. I had made a persistent and widespread campaign to round up the best workers, and gave myself the sense of importance to believe that many had asked for space on my initiative. At any rate I made the matter one of conscience and protested as follows:

"3217 Davis Street, Fruitvale, Cal.

"December 8, 1914.

"Mr. Theodore Hardee, Chief of Liberal Arts, Panama-Pacific Exposition,
San Francisco, California.

"DEAR SIR: Your communication of the third instant, etc., etc.

"These charges are beyond all reason and amount to a prohibitory tax. If the nature and conditions of such a section (Pictorial) were fully understood by your committee, this fee would never have been imposed.

"Pictorial Photographers exhibit as they produce, not for gain or any exploitation, but for the love of the doing. Even professional photographers when they enter the activities of the Pictorialists leave the commercial instinct behind and become artists in spirit, at least.

EDITORIALS

"Now, manufacturers, commercial photographers and others who by exhibiting plan to profit by the sale of their output should pay for space since such space is filled in the nature of an advertisement for wares.

"You have gotten millions from those who subscribed in advance. You certainly expect to make millions more from entrance fees. This and the purchase of space by those who have material gains in view should be made to carry the fine arts in all its branches.

"Speaking from my knowledge of the spirit and dignity of Pictorial Photographers I should say that this charge will sift out the best and leave behind such as buy their honor and pay for the privilege of having their work looked at.

"It seems as though you were proposing something similar to charging the actor for the privilege of performing to an audience who have paid admission in a theatre that has been donated to you. Etc., etc., etc.

"Very truly yours,

(Signed) "SIGISMUND BLUMANN,

"Dean, Photo Fellows of the World"

"Note.—This letter is identical in sense with the one sent to Mr. Hardee. When I wrote the original I was hot and carried away by my feelings, so it will be pardoned me if I have rearranged the paragraphs and corrected in a hasty way the sentences of the real communication.

"With his usual promptness, patience and courtesy, which I take this opportunity of acknowledging, Mr. Hardee answered forthwith and at some length. To make the White Book of this contention comprehensive, let me again give the essentials of the correspondence.

"Exposition Building,

"December 10, 1914.

"Mr. Sigismund Blumann, Fruitvale, California:

"DEAR SIR: I have for acknowledgement your favor of the eighth, and while I greatly appreciate your kindly interest I believe they are made without a full understanding of the situation.

"The Exposition provides exhibit space free in the beautiful Palace of Liberal Arts, as well as ample fire and police protection, a chance to secure valuable awards, a vast audience, and many other opportunities to enjoy desirable publicity benefits."

* * * * *

"Here follow statements of what expenses the Exposition is under, etc.

* * * * *

"Every exhibitor should be ready and willing to pay the fees exacted in return for the honors and benefits enjoyed.

* * * * *

"The Exposition is a concrete expression of the pride of the American people in the consummation by their government of the important national event of widest possible international significance,—the opening of the Panama Canal.

"Very truly yours,

(Signed) "THEODORE HARDEE,

"Chief of Liberal Arts."

"This letter, showing the courtesy of a gentleman, the diplomacy of a veteran manager of Expositions, and the language of a born booster, I will summarize and condense for the reader into what the words really mean and let judgment decide whether I am without a full understanding of the situation.

"To the point, then. The Exposition management expects everyone who is an American patriot to contribute something beside effort, art, skill and material—to-wit, money—as an expression of their elation at the opening of the Panama Canal. This generous spirit of patriotism does not seem to have penetrated the hearts of the management, and a lack of the sense of humor makes them invulnerable. They have not contributed any gratuities. They are well paid for their services, and I think it is only right they should be. But that they are so paid puts them out of position to talk patriotism, etc., in the present connection.

"The Pictorial Photographer exhibits for the pleasure and improvement of the picture lover and from a love of making things of art and beauty. He helps furnish the show, as I said before. He is patriotic and helpful to the extent of giving the material that constitutes his exhibit, the art and labor that has gone into it, the expressage, and let us concede the cost of framing. He charges nothing for these. He donates the exhibit to the good and glory of his country and fellow countrymen. When he attends the Exposition he will contribute his admission fee to the concrete expression of pride in his country's achievement and to the salaries of the Exposition employees. He is willing to pay coming and going but finds the 'in between' too much.

"Personally, I withdraw my recommendation to all who have on my solicitation

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asked for space, that they exhibit. I advise them to protest and refuse any payment other than for the nominal cost of framing. If things come to the pass when photographers must pay for the privilege of showing their prints, let them change their hobby and do plumbing for pastime.

"In conclusion, I wish to assure the public at large that in no sense are the department heads guilty of selfish motives in putting the one and two dollar charges upon the expression of patriotism. Their salaries are assured and they neither gain nor lose by the getting or the failure to get, of this fee. It is part of their paid duty to make the Exposition a financial success and they are striving to make dollars come from unforeseen sources, like the water that flowed from a rock at the touch of Moses' rod. I think they are making a mistake and hope they may be convinced of it in time to give us a great Pictorial Section.

"Cordially yours,

(Signed) "SIGISMUND BLUMANN."

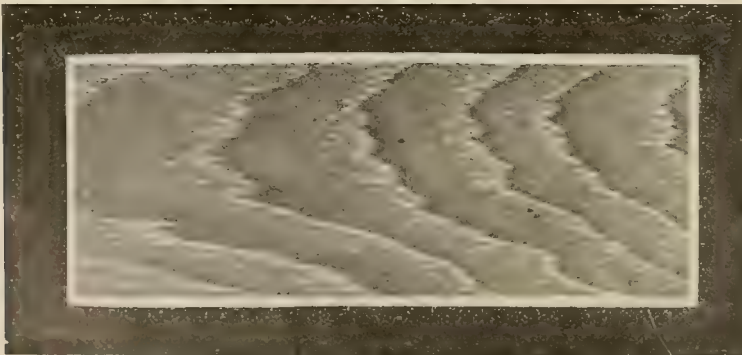
Mr. Keller's Trip East

F. Carl Keller, the popular and efficient local manager of The Defender Photo Supply Company, has just left for the East to attend the annual meeting of managers at Rochester. While Mr. Keller has only been on the Coast for about a year, he has earned for himself the good will and esteem of the photographic trade by his uniform courtesy and businesslike methods, and his many friends wish him a most enjoyable trip.

Mr. and Mrs. Bissell Here

Mr. and Mrs. L. H. Bissell are spending a few weeks in this city at the residence of their daughter, Mrs. J. F. Magee, at Twentieth Avenue, after which they will visit other parts of the State before their return to Effingham. They have been made most welcome by the many friends and acquaintances which they have made during their previous visits, and the only regret is that their stay cannot be made longer each winter.

Any man is wealthy who has good health, a happy home life, a business or profession in which he is interested and successful, a passion for growth and the ambition to be of service to his fellow-man. With these he has all he needs, if not all he wants, and he could not get any more out of life if he had a million dollars.—ARTHUR FISCHER.



THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Exposures Made Near Sundown

A visitor last week showed us some very fine views that he had taken the week before, views about his own home and grounds. All the exposures had been made either very early in the morning or just before the disappearance of the sun below the horizon. The result was that he secured the most charming effects of long shadows and secured them without that harshness so easily obtained when the sun is higher and its light more intense. Of course, a generous exposure is required, and such given, soft results are not hard to secure. And come to think of it, what real objection is there to giving an exposure of several seconds instead of a fractional part thereof, on views of this kind. Even those in which a number of the family were shown seated on the porch or the steps leading up thereto, had been given exposures of several seconds. True, group portraiture is rather risky with such long exposures, but with the figures at some distance from the camera and therefore forming only a small part of the picture, little or no trouble is experienced from slight movement such as would spoil a picture were the figures of the usual group picture size. The idea is one well worth trying if only for the pleasing results afforded by the long shadows of a low sun. Any one having a view of his home, one taken near the middle of the day, should try taking one of these late-day effects from the same viewpoint, providing the light falls at all rightly, and then compare the results. I feel quite sure that the long-shadow effect will win easily over the other in popularity with both the photographer and those more intimately interested.

The Amateur In Portraiture

We receive, quite frequently, letters from amateurs who, finding they have some skill at portraiture and a lot of love for the work, seek our advice as to entering the professional field. And hard as it is to give them advice, it is next to impossible to give them

the advice wanted. If we could assure them that a taste for the work indicated that they were heaven-born photographers and that the public would be sure to appreciate the fact and wear the proverbial path to their door, all would be well. But the truth of the matter is that the dear public, as a whole, does not seem able to distinguish between the portraits produced by the man who loves his work and those turned out by the one who has been taught how to pose and light a subject in order that he may earn a certain amount each week. In fact, the work of the latter is inclined to be more in favor for the simple reason that it is more uniform and more conventional, because it does not disappoint their expectations. Success in professional portraiture is mainly a matter of a pleasing personality coupled with good business enterprise. Of course a love for the work and some capability therein are an added asset, but they are far from making up the list of requirements for success. Understanding this, it is evident that the question is one that can be best answered by one's intimate friends or even by oneself better than it can be answered by us. Of course we are always glad to do what we can in advising as to a location and as to equipment and the like, but it is, as I have explained, practically impossible for us to be of the least assistance in predicting the possible success or otherwise of a person embarking in the field of professional portraiture.

Using Tinted Papers

Another visitor last week showed us some prints that were somewhat of a novelty and quite pleasing as to results. They were mostly landscape prints that had been made on ordinary developing paper and then given a light stain by being immersed in strong coffee in some cases, and in an aniline dye solution in others. Two or three of his samples had been stained different colors at top and bottom; one, a particularly pleasing

example, being a fairly deep blue at the extreme top, shading down lighter as the horizon was approached, where it merged into a pale yet warm orange, this last gradually changing to a brown that increased as the foreground was reached. This effect of diminishing color is easily secured by placing the print in a tilted tray containing the solution and allowing the latter to only occasionally wash up over the part desired lighter, much as one vignettes the light in making a bromide enlargement. In getting the band of orange across the center of the print last mentioned, all that was necessary was to bend back the top and bottom and immerse only that looped portion, raising and lowering the loop in order to soften the edges. The bottom of the print was treated as was the sky, only using the brown color instead of the blue, in a tilted tray as described. The process is one that is worth trying if only for the pleasure of adding a little variety to one's collection of prints.

Trying New Papers

While I do not particularly desire to encourage our readers in chopping around from one brand of paper to another, there is, in the persuasive advertising, a constant incentive to try some new brand and it is easier to do so and get it off one's mind than to fight against the inclination. But, in making the trial, one should be at least half-way fair in the matter and give the new paper a fair trial. Each particular maker's emulsion varies somewhat from that of other manufacturers, and in trying the new brand one should take that point into consideration. It requires but a few minutes to mix up a developer according to the maker's directions, and that should be done, even if one also tries his regular developer on a portion of the sample. Doing this, unsatisfactory results can be reported to the manufacturer with some good chance of the difficulty being explained. If the manufacturer is sent one of the unsatisfactory prints and is told that it was exposed and then immersed in a developer compounded according to a certain formula printed on his instruction sheet, and for a stated number of seconds, he can quite easily advise as to where the trouble lies. That is, supposing that the chemicals are all right and have been properly weighted out and mixed. When the composition of the developer is different from that of his own

and the time of development unknown, he can only guess at the possible cause of ill success. Of course, he could mix up such a developer as the complainant used and by making a number of experiments therewith determine, rather closely, the trouble, but that would be almost asking too much, even of the man who is making the paper and trying to secure new users therefor.

Growing Some Backgrounds

Now that the garden-planting season is coming on, would it not be a good idea for those amateurs who are so situated that they can, to arrange for a few good natural backgrounds next summer. A bit of rustic fence is often available or can be easily erected in a suitable place. A few tall-growing plants like the common hollyhock planted behind it, with a vine like the morning glory planted to climb over and about it, would give a most charming setting for the pictures of the children or even the summer girl of a few months later. Both these plants can be secured of the white blossom kind so that they will show quite well in the picture, and of course a few snips with a pair of scissors will remove any superabundance should they become too obtrusive.

Using Fast Plates

At this season of the year the amateur sometimes has recourse to the fastest plates he can procure as a means of overcoming the disadvantage imposed by the weaker light of the winter months. Doing this, he too often fails to enjoy the expected advantage through neglecting to use his developer properly. Working in winter with cold trays, cold plates and a cold developing solution, not to mention the possible low temperature of the surrounding atmosphere, the chemical action of the developer is much less active than would be the case in summer and perhaps the extra rapid plates are blamed for not living up to the reputation their maker would endow them with. On the other hand, the extra rapid emulsion will not stand as great an amount of forcing, either by warming the solution or increasing the alkali, or both, as will the plate of ordinary good rapidity, but yet it is entirely unfair to expect it to develop all the speed claimed for it when subjected to a developer of summer dilution at a temperature quite a number of degrees below the normal for the warmer months.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Bromoil

This department has received several requests for information on the subject of Bromoil and our local workers have shown an awakening interest. To the large amount of matter already given in this department in the last three volumes, would draw the attention of workers to the translation of Dr. Fuhrmann's paper in the *British Journal of Photography* for January ninth, 1914, in which he advocates the employment of formaldehyde for the control of relief and the use of carbon tetrachloride in place of benzol for clearing the print. Concerning the first, he says:

"The experiments thus go to show that in Bromoil work it is very easy to increase the capacity for taking the ink (diminished by too high a relief) by use of a suitable bath of formaldehyde, in contradiction of the opinion of Mayer. On the other hand, experience with Bromoil has convinced me that it is far more convenient to obtain a maximum relief, as in oil printing, and by suitable use of a formaldehyde bath gradually to obtain the correct degree of attraction for the ink. By working in this way, we obtain an extraordinary degree of depth in the shadows. I may, therefore, describe as follows an advisable procedure in Bromoil work for the preparation of the relief: The bleached and dried print is first soaked for about ten minutes in cold tap water, and is then placed in a bath warmed to about one hundred and five degrees Fahrenheit. It is then given another two minutes in cold tap water immediately before the first inking. For this the stiff oil colors are used. Without making any alteration in the consistency of the inks, use is made for about a minute of the one per cent bath of formaldehyde, as used in the oil process. The somewhat hardened print is now placed for a while in gently flowing tap water, dried off, and then again inked up with ink of the same consistency. It will now be found freely to take ink in

the shadows whilst the lights remain, for the most part, completely clear and white. The process may then be repeated with a somewhat softer ink. In diluting the ink, great care is required; very little drying varnish should be used. For diluting, I find best the so-called drying varnish of Berger and Wirth and Kast and Ehinger.

"It is very convenient to adopt the plan suggested by Mayer of dipping the Bromoil print in water from time to time during pigmenting. This facilitates the process considerably. I should note, however, in reference to it, that in drying the pigmented print one needs to proceed just as in ordinary oil printing. The small lines and occasional spots, which occur through too heavy pressure against uneven linen surfaces, are readily removed by further pigmenting.

"As regards the further treatment of the finished Bromoil print in benzine, it should be said that in place of the latter tetrachloride of carbon may be used with equally good effect and with the advantages already mentioned. But it should be noted that the time of action should be extremely short, in order to avoid any complete solution of the medium of the ink, which would lead to a separation of the latter. I usually dip the print for a few seconds only, or very quickly once or twice in the tetrachloride of carbon. In the case of benzine or petroleum ether the prints can be left for a considerable time without injury, since these hydro-carbons dissolve the medium of the ink only very incompletely."

In the matter of developers, this writer gives preference to amidol or Tri-amidophenol.

Bromoil Transfer

The following paper by Fred Judge, published in *The Amateur Photographer*, is the most important of recent contributions:

Having got into the way of making a passable Bromoil with ease and certainty, in some cases almost all that could be desired, I could not get a full and satisfying transfer until I

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stumbled by accident on the secret—a very simple one, as almost all such things are—and here it is: After transferring, soak the bromide again for a few moments, ink up and transfer on top of the first impression. If not satisfactory, transfer another inking on top of that, and another, and yet another, if you like, and then you get what I always hankered after, a result similar to a mezzotint, or even an etching at times.

In the first place, as in every other process, the best negative gives the best result; and in any case, a good enlargement is more easily obtained from a good negative than from a poor one. Personally, I have adopted whole-plate as the most convenient size; it is sufficiently large to acquire a dignity, and at the same time is not too large to be quickly pigmented. I have tried many makes of bromide paper, but have obtained my best result by means of Kodak platino-matte, and so I generally stick to it. It seems to require longer to get a finished bromoil on it than on other grades; but its range is good, and it transfers fairly freely. I make a reversed enlargement on this paper, using an amidol developer.

The formula I employ is that published by A. H. Garner, as follows:

A: Salt 1 pound
Water 64 ounces
Copper chloride... 2 ounces, 1 dram

B: Saturated solution potassium
bichromate.

For use: A 4 ounces
B 1½ drams
Water 4 ounces

This quantity of bichromate being best for Kodak platino-matte, but may have to be altered a little for other makes. After bleaching, a wash in, say, three changes, and then three minutes' fixing in:

Hypo 1 pound
Potassium metabisulphite... 2½ ounces
Water 140 ounces

Several more changes of water; then hang up by a clip at the corner, and dry.

It will be found essential to have a clear border or margin. After development—and this I consider rather important—a good wash is necessary, say a minute under the tap, not just a rinse; then fix for fifteen minutes in a plain hypo bath, and afterwards thoroughly wash. And now comes a slight difference in my own treatment from what, I believe, is that of others. Most workers dry and

then bleach; but I bleach immediately after washing.

I generally bleach five or six enlargements at a time, in every bath constantly bringing the bottom one to the top, and paying particular attention to the first fixing bath. Almost all my Bromoil transfers are done in the evenings, and I find one per evening is quite sufficient. Before leaving home in the morning, I take one of the bleached bromides, straighten it out, and trim the clear border or margin evenly with a straight-edge and sharp knife, cutting it on glass, if possible, to insure a clean edge; a rough, jagged edge is conducive to frilling with the handling which the print afterwards receives. I then slip it into a dish of clean, cold water, turning it over two or three times to make sure there are no air-bells (this is important), and then leave it there face down till the evening—say, ten or eleven hours.

The wet pigmenting pad is made by folding a whole sheet of photographic blotting paper twice, to make it four-sheet thick; this I thoroughly soak and lay on a slightly larger piece of thick old plate-glass, and then lay on the top a piece of ordinary superfine writing paper (about 10x8), thoroughly wetted, of course. This should be done the previous evening, and should keep nice and moist, fit for work for two or three times. Generally, after the close of the second evening's work, I hold the lot under the tap for a moment, and then put in a cool place (in my case, a cellar).

The damping arrangement for the transfer paper is also prepared a day or two in advance. In this case I use two whole sheets of photographic blotting paper folded over once, thoroughly saturate, and place between two larger pieces of old plate-glass, as thick and heavy as can be got. If the damper were used at once, it would be far too wet, but two days in the cellar between the glasses brings it into fine condition, and it will keep so for another day or two, when a thorough soaking after the evening's work will make it all right for the following evening. The transfer paper itself may be any good make of drawing paper or tinted crayon paper.

I have tried various surfaces, but have eventually adopted the hot-pressed, the gloss of which comes off in the damping, leaving a good semi-rough surface, which the inked print takes to very kindly. About half an hour before pigmenting, slip a piece of the

A PHOTOGRAPHIC DIGEST

Arnold paper between the damp blotting paper, not too close to the bend of it, and lay the top piece of glass on again for, say, two minutes, to get the top sheets of blotting pressed in contact, and then remove. If the weight is left on the transfer paper much longer than this, you will find, when you are ready for it, the paper will be all cockled. This sounds a very simple little thing; but it cost me months of vexation and no end of material to find out; so don't despise it. Get the pigmenting done as quickly as possible; if longer than twenty minutes, say, give another soak for two or three minutes, replace on pad, blot off, and finish inking.

By the way, the inking should come easy; if hopping is necessary, the darks will not transfer. A tip here. Loose bits of hair and other stuff that seem to come from nowhere are easily picked off with a stiff, small brush immediately after this resoaking and wiping dry. A good inking brush is the oil printer's best friend, so have as good a one as you can get, and have it big enough, at least one inch across; a smaller one is also useful at times; and one thing I consider almost a necessity, a small, flat, stiff oil-painter's brush, perhaps one-fourth inch wide. This is to pick out high lights, stroke down broad lines, etc., where wanted, and clean the margin; sometimes this last is best done with a damp rag; old, white linen handkerchiefs are fine.

In making the transfer, care should be taken to make the original bromide print smaller than the paper, so that a clean margin can be trimmed up round the picture before pigmenting. This margin, which may be one-eighth of an inch or half an inch, as desired, is cleaned up after pigmenting by carefully wiping with a damp rag up to the straight edges of the picture.

My press is the household mangle, a large, heavy affair, with the advantage that the pressure is applied by one wheel and worm in the center, thus getting even pressure on both ends of the rollers at the same time. I cannot think why this system is not used on all the proper presses. I make no alteration to the mangle (the powers that be would not allow it), so the traveling table consists of a very thick piece of ordinary cardboard, about 18x12x3/16ths inches, and on the top of this I lay (loose) a piece of thin zinc, which must be perfectly flat and free from lumps or dents.

Now another little tip: if the family mangle is a fairly old one, it may be, as ours is,

a little hollow in the centers of the rollers lengthwise, so I use a small piece of ordinary household blanket on the top of the printer's blanket cut just a little wider but considerably longer than the bromide print, making sure, however, by lifting up the printer's blanket and gauging it by the eye, that it covers completely the space of the print. I then put the lot into the mangle and turn the handle fairly slowly, but regularly (without putting any pressure on), until I am certain that the grip has got beyond the print, but not taking the card right through. I then give the pressure wheel about three turns, and wind back again, taking off the pressure when the print is past the grip, so that the rollers do not drop together with too much of a bang when the cardboard comes out, though the protruding blanket ends will take off the jar somewhat.

The blankets are now removed very carefully, so as to avoid shifting the print, and, with a sharp-pointed pencil, a faint line is made close to each corner, top, bottom, and sides. Then strip off the inked print, and replace in the dish of water. It will be found that all the ink has not come off the bromide, and that the transferred print looks weak and washy, but all the lighter tones should have transferred perfectly. The transfer paper is put back between the damp blotting, the heavy glass dropped on it for a minute or so, and then lifted up again; I now take the bromide out of the water, lay it on its damp pad, dab off the moisture, and re-ink. The re-inking is very quickly done, ten minutes or so being ample as a rule. Transfer again on top of the first impression, taking care when laying the print down that it is centralized by the pencil-marks; then dry the moisture off with the dry blotting before putting on the blankets, and carry out the pressing exactly as before. It will be found on stripping that a great improvement has taken place, and in some cases that nothing further need be done; but it is here that one's individuality plays a prominent part. It may be an inking to only a portion of the print, such as the deepest shadows, and then another transfer; or a quick inking all over, with the bromide sopping wet, to get heavy contrast. There is a limit, however, to the amount of ink that the transfer paper will take. Beyond a certain point the deepest shadows refuse to take any more, and the tones nearest to them catch up. I thought once that if the transfer were

dried and then another impression put on (after damping) the next evening, this would be improved, but so far I have not found this to be the case. The finished print is laid out to dry, or hung up, and will probably require keeping under pressure afterwards for a day or two to make it lie perfectly flat. Should the transfer be spoilt from any reason, the economical man would use the other side of the paper.

A thing that is now troubling me is what to call these prints; many photographers would know what a Bromoil transfer was, but that description does not seem either adequate or proper. What does it matter what they are transferred from? The result is a print in pure pigment on pure paper, and nothing else, and should have a name as eloquent as the word "etching."

In another article the writer shows that these transfers can be worked up with colored pastels with results only limited by the skill of the artist.

Bromoil Vignettes

H. M. Kellam, in *Photography*, shows how early these may be produced by care in inking up the print and the use of a soft rubber to remove unwanted pigment. In order to avoid discoloration of the background, a little potassium metabisulphite must be added to the fixing bath.

Color Prints on Paper

The first public demonstration of the Polychromide process of color photography was given before the Royal Photographic Society on October twentieth, by Aron Hamburger, of the Dover Street Studios. In order that the Teutonic name need not stir an unworthy suspicion in a single bosom, it was explained that Mr. Hamburger was of American birth, as was his family for two or three generations. His ambition with regard to the Polychromide method had been, he said, to obtain as successful results on paper as the Lumières had achieved on glass.

The system depended upon obtaining three-color-sensation negatives, and afterwards combining them. Instead, however, of splitting the spectrum into the three primary colors, a compromise had been made by which the red-sensitive element was made to include a certain amount of degradation towards the violet, the yellow towards the orange, and the blue towards the green. In this manner three emulsions were secured, which could

be exposed simultaneously, using a single filter and one lens.

The camera used was of special construction, and the filter was lightly platinized and made to serve also as a mirror. Its index of reflection was made exactly equal to its index of refraction, and by maintaining this equilibrium a single exposure through the one lens upon the three pieces of sensitive material became possible. The exposure on the red-sensitive plate was obtained by refraction through the filter, and on the reflection side of the camera the green-sensitive and blue-sensitive emulsions were placed film to film on their respective supports, the one of celluloid and the other of glass. The exposure with this arrangement under artificial light was only one-eighth of that necessary for the autochrome plate.

Mr. Hamburger said that while working in Carey Lea's laboratory in Philadelphia, the idea had occurred to him of getting the component images for color-printing in the form of silver compounds. This idea was put into practice in the case of Polychromide printing. From the yellow-printing negative a black-and-white print was made on a modified bromide paper, was bleached in chromic acid, washed, and the image converted into a double salt of silver compounded of silver, iodine, chromium and mercury. The yellow print was dipped, finally, into a solution of gelatine, and was ready to be superposed on the red. The blue-printing negative was treated on much the same lines, the blue being obtained with a very familiar reaction, i. e., toning with ferricyanide of iron. The red, he admitted, was a miserable subterfuge. He found no salt of silver that would give him the red. From alizarine, however, a lake was evolved, containing alizarine and silver, and the lake from which this pigment was produced was less opaque than anything they had seen before. It would combine with the other elements without any predominance of red being necessary.

Registration was a matter of simple manipulation, and when well set and dry, the superposed layers were pulled gently from the glass support, the film adhering to the base print. When mounted, it was usual to varnish the superposed images, thus bringing about an enhancement of the prismatic colors, and adding to the permanence of the print. Some critics who spoke in the course of the discussion, however, appeared to think that

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varnishing detracted from the artistic appearance of the results, and that a less vivid coloring would be preferable. Mr. Hamburger explained that his essays in vivid coloring were simply undertaken to show the capacity of the process, and that it was equally effective in dealing with the silvers and grays and quieter tints. Some very beautiful color work was exhibited in the course of the evening.—*The Amateur Photographer*.

Autochrome Notes

H. S. S. Young in the *British Journal of*

Photography, among other things favors the use of Rodinal for the development of autochromes. He uses a dilution of one to fifteen for two and one-half minutes, exposure being correct. Last year when experimentally comparing Paget's with autochromes, I used this developer, one in thirty, for both. I saw no difference as against Quinomet or pyro ammonia. Mr. Young also advocates an alum bath after redevelopment. I use a formaline bath before that operation, which I imagine comes to about the same thing.



OUR BOOK SHELVES

"Unit Photography"

We are just in receipt of this handsome book, and can hardly praise it too strongly for the value which it undoubtedly possesses for photographers of every kind and character who may be interested in making their photographic work more easy and certain, particularly in the matter of exposure. The author, Frank Morris Steadman, is well known to our readers, and in this book he has explained so clearly and concisely the factors governing the making of perfect negatives through the understanding of the action of the light considered in its actinic quality, that the vexations and disappointments heretofore inherent in the work are all removed.

In the introduction Mr. Steadman explains that his purpose is to show that the chemical energy of light, the relative aperture of the lens, and the degree of sensitiveness of photographic emulsions, which are fundamental elements in photography, are at present lacking simple units of measurement; this proving that photography, as practiced, is lacking in that exactness which makes for uniform and certain results. Assigning rational units of measurement to these several factors at once enables the photographer to determine proper exposure with a certainty that makes all after manipulation of the plate and print as simple and mechanical as the results are certain and satisfying.

The book deals with its subject in a most practical and logical manner, and the several chapters carry the reader forward to the closing discussion of actual practice in

a most orderly way that is as instructive and inspiring as one could possibly wish. While written in simple, easily-understandable language, the book no doubt establishes the value and application of the new unit of value, that of actinic, that will hereafter be accepted and used for the simple reason that it supplies a want for a name expressing an idea of a value heretofore lacking a descriptive term. The book is handsomely illustrated with thirteen plates and ten illustrations, is well bound and clearly printed. Copies will be supplied direct by the author at the uniform price of two dollars, postpaid. Address F. M. Steadman, Box D, Concord, New Hampshire.

"Deutscher Camera-Almanac, 1915"

This, the tenth issue of this excellent German annual, is just to hand with its wealth of fine illustrations and informative articles. Some idea of its value may be gleaned from the fact that only about thirty of its three hundred pages are devoted to advertising. And what adds still more to the value of the annual as a book is the fact that while the illustrations are of the finest they are practically all used as illustrations of the text, this last supplied by the makers of the pictures in the form of articles telling how they do their work. All in all, the book is one that every reader of German who is interested in photography will find of the greatest assistance in his work. It is published by the Union Deutsche Verlagsgesellschaft, Blucherstrasse 31, Berlin S 61, Germany, price four and one-half marks

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3996—Paul M. Elder, Box 362, Coeur d'Alene, Idaho.
Class 2.

3997—Fred C. Wilharm, 535 Winfield St., Pittsburgh, Pa.
4x5, 5x7, 6½x8½, 8x10, and lantern slides, various papers, of portraits, flowers, general views, buildings, and industrial; for the same. Class 1.

3998—D. L. James, R. F. D. No. 3, Lexington, Ind.
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3999—Roland M. Vagg, Box 107, Saco, Mont.
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4000—Victor Hodge, 819 Monterey St., East Bakersfield, Cal.
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Class 2.

4004—Miss Theresa W. Kent, 51 Bowdoin Ave., Grove Hall, Dorchester, Mass.
Class 3.

4005—J. C. Banks, Sweet Home, Ore.
Post cards only, various papers, of mountain scenery, lakes, waterfalls, rivers, and ocean scenery; for nothing but natural scenery, wild animals or birds, lakes, waterfalls, and ranges. Post cards only. Class 1.

4006—C. L. Hodges, Box 108, Vanderbilt, Mich.
Post cards only. Class 1.

4007—Jack O. M. Perry, care W. H. Paxton & Co., Ltd., Mackay, Queensland, Australia.

4008—Ewald Wesner, Box 76, Lakefield, Minn.
5x7 or smaller, developing papers, of sunsets, lake scenes, views, bird nests, and portraits; for views, scenery, and nature studies. Class 1.

RENEWALS

2146X—U. W. Tryon, 327 Sargent St., Kendallville, Ind.

4¼x6½ to 8x10. Class 1. If all those to whom I am indebted in the Exchange, will drop me a card, I will reply and balance accounts. Sickness has caused me to lose track of some.

2406—V. G. Heverly, P. O. Bldg., Center Point, Iowa.

Post cards and up to 5x7, developing papers, of home portraits, landscapes, and general views; for home portraits or anything of general interest. Prefer post cards. Class 1.

2482—John W. Kimball, Guard Vt. S. P., Windsor, Vt.

5x7 and post cards, developing paper, of a good assortment of views of New England scenery, such as rivers, lakes, mountains, and landscapes; for views of scenery, historical subjects, in fact anything of interest. Would like a good set of views from Yosemite Valley. Post cards or prints on D. O. P., for good work only. Class 1.

2562X—Z. T. Rawlston, R. F. D. No. 1, Hixson, Tenn.

Post cards and 5x7 prints, of rural scenes, interesting views, and some fake work; for marine views, rural scenes, and anything of interest. Good work only. Class 1.

2565—E. V. Bargamin, Elk City, Idaho.

Post cards and prints up to 5x7, also stereos of game and nature studies for interesting studies in the same or general views. Class 1.

2712X—Edward D. Davison, R. F. D. No. 1, Munnsville, N. Y.
Class 2.

3189—W. R. Davison, R. F. D. No. 3, Brighton, Iowa.

CLUB NEWS AND NOTES

4¼x6½, developing paper, of landscapes, buildings, street scenes, and miscellaneous; for any interesting scenes. Post cards only. Class 1.

3200—A. H. Parrish, Sodaville, Ore. Class 2.

3212—Gerald L. Massey, Big Eddy, Ore.

2½x4¼, 3½x5¼, and 5x7, of landscapes, construction, etc.; for the same. Prints or post cards. Class 1.

3227—V. Rose Huff, Chagrin Falls, Ohio.

3¼x5½ and 5x7, developing paper, of farm views, marine, child studies, etc.; for the same in prompt exchange. Will send cards fully covered or with fancy borders, also hand-tinted work. Class 1.

3230—Lewis D. Capen, Millbrook, Mich. Class 3.

3255—Dr. A. M. Sutton, 175 S. First St., San Jose, Cal. 4x5, 5x7, and 6x8, developing papers, no glossy surface, of landscapes, and marines; for the same, no post cards. Class 1.

3508—Norman W. Casper, New Burnside, Ill. Up to 8x10, mostly 2½x4¼, developing paper, plain and toned, white margins, of various subjects; for the same. Exchange with nearby members especially desired. Class 1.

3534—Burr E. Chance, Vermontville, Mich.

3¼x5½, and smaller, of views of Southern Michigan, scenery, land and water; for views of general interest, no portraits wanted. Post cards and prints for prints only. Only good work accepted. Class 1.

3618—Robt. A. Parker, 1119 Franklin Ave., Fresno, Cal.

3¼x4¼, 3¼x5½, post cards and occasionally enlargements, of mountains, views, bird trees, and miscellaneous; for the same. Child studies, wild birds, animals, etc. Will appreciate criticism of my work from any one that does not find it satisfactory. Class 1.

3685—Wm. T. Adam, Box 174, Greenville, S. C. Class 2.

3765—Box 23, Colorado Springs, Colo. Class 2.

3995—Hans Bothe, Manila, P. I.

5x7, various papers, of scenes of the Philippine Islands, for any kind if accompanied by an explanation. Class 1.

CHANGES OF ADDRESS

3025—Felix Cremer, Needles, Cal.
(Was Los Angeles, Cal.)

3100—F. W. Philpot, R. F. D. No. 1, Box 509, Long Beach, Cal.
(Was General Delivery).

3738—William F. Prevett, 1751 West Washington Blvd., Chicago, Ill.
(Was 393 S. Loomis St.)

WITHDRAWAL

3968—Mrs. T. C. Cassidy, 2231 Walnut St., Bellingham, Wash.
Owing to ill health.

CLUB NEWS AND NOTES

The Postal Photographic Club

The last monthly bulletin-letter gotten out by the Club's most efficient Secretary, Mr. G. A. Brandt, of Washington, D. C., contains, in addition to the route list and details concerning matters of the Club, the following information, which we believe will be interesting to members of other like organizations.

"This Club, the oldest association of its kind in the United States, commences the present year with practically its full quota of members, and still maintains the high standard and prosperous condition that have prevailed for many years; its finances are in a healthy condition, and the utmost harmony exists among its members.

"When the album of The Postal Photographic Club for March, 1915, has been issued, this act will complete thirty years of existence of this organization. The first album, containing nineteen prints by eight contributors, was issued April 29, 1885. At that time C. W. Canfield was the president of the club, and Jos. W. Rich, of No. 50 West Thirty-eighth Street, New York, was the secretary and treasurer. Our esteemed Randall Spaulding, represented in this first album, is the only one of the original members borne upon the present list of club members.

"The first album contained a list of prints with full data, also instructions for forwarding the album and note book. This information was printed upon a duplicating machine, and the album could be sent by mail as printed matter. The postage on the first album was twenty-one cents. The note book was sent separately under letter postage, costing six cents for mailing. One of the original members, John E. Dumont, was afterwards celebrated for his fine genre studies, in which field of pictorial photography he remained for many years a prominent figure."

Capital Camera Club

The Capital Camera Club of Washington, D. C., has moved to new quarters at 712 Eleventh Street N. W., where it occupies the entire floor of the building, giving it largely increased facilities for work. It has been incorporated under the laws of the District of Columbia, being now the Capital Camera Club, Incorporated, and is in a most flourishing condition. The new officers are: President, T. V. Powderly; Vice-President, G. H. Macdonald; Secretary and Acting Treasurer, Frank W. Vedder; Librarian, George H. Cranston. Visiting members of other clubs are always welcome.

NOTES AND COMMENT

**A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest**

Reported by William Wolff

J. F. Hartsook bought an automobile for his San Francisco Studio Manager, Mose Grady. It is supposed to be an Overland, but it is evidently a trick machine, as Mose makes it climb telegraph poles and trees.

Harry M. Gibbs now has a studio at 1007 Market Street, San Francisco, where he will be pleased to see all his old-time friends.

A visitor from Reno last week was W. W. Still, who came to town to spend the holidays and some of his last year's profits.

The holidays also attracted W. C. Powell, of Redding, to San Francisco.

France has claimed one of our photographers, A. Bene of this city, who is now at the front fighting for his country.

John O. Tucker, of San Jose, has charge of the Santa Clara County exhibit at the San Diego Exposition.

Enno Lion's New Field

As a number of his friends have inquired of us as to where Mr. Lion could be located, we would advise that his address is 250 Twelfth Avenue, this city. He tells us that he is only too glad to have us furnish this information as he does not wish to get out of touch with his friends and acquaintances who are, like himself, interested in photography. He is at present perfecting arrangements for an interesting exhibit of a number of photographic specialties in the photographic section of the Liberal Arts Division of our coming Exposition. Mr. Lion is one of the most popular photographic salesmen in this city and we feel sure that any exhibit at the Exposition that is in his hands will have an added interest in the eyes of the photographically inclined.

California Wild Flowers

Theodore Payne, the well-known seedsmen and nurseryman of 345 South Main Street, Los Angeles, is putting forth every effort to encourage the planting of road-

sides and vacant lots throughout the country to the many beautiful varieties of wild flowers with which our state is so liberally blessed. He is distributing a valuable pamphlet entitled "How to Beautify Your Town and Country for 1915," and interested readers should drop him a card asking for a copy. Instructions are given as to the culture and varieties best suited for various situations, together with much valuable information pertaining thereto. Those really interested in California's native flowers should send fifteen cents for a copy of Mr. Payne's illustrated booklet: "California Wild Flowers, Their Culture and Care." Mr. Payne early realized the possibilities of specializing in the propagating and seed cultivation of our native plants and flowers with the result that a much wider appreciation of our own distinct and varied flora has been created through his efforts. Our Eastern readers will find his booklet mentioned above well worth the small price, and it will no doubt tempt them to order seeds or plants from the accompanying price list.

8000 Candle Power Per Light

We have just received from Allison & Hadaway, particulars concerning their new Panchroma Portable Twin Arc Lamp that gives eight thousand candle power from each incandescent socket used. This lamp can be employed on any ordinary electric installation, either direct or alternating current, and its success has been so well established that the Edison, Vitagraph, Lubin and other large motion picture studios have been supplied with a full equipment of them. We have seen a film made in the dining room of the White Star Liner Olympic showing an active scene at sea. While only one of the Panchroma Twin Arcs was used, the film is excellent, showing all the detail necessary for an excellent production. The light is soft yet brilliant, thereby avoiding any glare or ghastly colors to annoy, while the consump-

tion of current is remarkably small, being but thirty amperes for four arcs giving about sixteen thousand candle power. While primarily intended for moving picture work, it is eminently adapted to studio work, and those interested in an efficient and satisfactory form of artificial light should certainly investigate this new lamp. Full particulars will be sent upon request to those addressing Allison & Hadaway, 235 Fifth Avenue, New York City.

\$100 For Farm Photographs

Many of our readers have most excellent opportunities for the making of pictures suitable for covers and illustrations of farm papers, and we are glad to announce that *Farm and Fireside*, of Springfield, Ohio, is offering thirty-two prizes, ranging from twenty-five down to one dollar for pictures of this description. In their announcement they advise "Choose your own subjects, your animals, your buildings, your fields, your trees, whatever you think is most attractive, remembering that the most interesting and unusual photographs will be likely to win the prize."

This contest closes July first, and our readers who are located where suitable subjects can be secured, should send for a copy of *Farm and Fireside*, as the suggestion is made that the pictures be taller than they are wide, or about the proportions of the cover of that publication. Readers mentioning this notice will be furnished with free sample copies upon request to *Farm and Fireside*, The Crowell Publishing Company, Springfield, Ohio.

A New Moving Picture Camera

The Simplex Photo Products Company, manufacturers of the popular Simplex Projector, are placing a moving-picture camera on the market under the name of the Alamo. This is to be put out under a very modest price. This camera is a practical instrument for home and educational use, one that should appeal to all who require something less expensive and complicated than the ordinary high-priced apparatus used by the professional moving picture people. With this camera, a modest printing apparatus and a "Baby Simplex" projector, manufactured by the same firm, any photographer is equipped for most satisfactory moving picture work. Particulars can be obtained by writing Sim-

plex Photo Products Company, Morris Park, Long Island, New York.

Will Photography Teach Us?

Below is given a letter from an old subscriber and correspondent, one that will no doubt interest many of our readers, particularly those who themselves fail to agree with Mr. Simson in the particular statement which Mr. Douglass so strongly questions: "My Dear Mr. Clute—

"I still find delight in the regular visits of CAMERA CRAFT, and I assure you that I appreciate what you are doing in putting out such an excellent magazine. However, in the December number I find a statement in the leading article by Claud H. Simson with which I cannot at all agree. Mr. Simson advises that 'Photography * * * will not teach us the intricacies, the simplicity or the boldness of design; it will not acquaint us with the subtlety of composition, the value of subordination.'

"I must confess that my own art training has been most limited; in fact, I have never enjoyed any such training, if thereby one understands the advantages of an art school. Nevertheless, I have visited many exhibitions of paintings, comprising the work of some of the greatest artists, and I have also seen all of the American Photographic Salons; and, doing so, am firmly convinced that the percentage of good composition in the work shown in the Photographic Salons is higher than that in any collection of paintings that I have ever seen. Possibly Mr. Simson would argue that I do not recognize good composition when I see it. Perhaps not. I only know what I think is good composition when I see it. Incidentally, I might add that my own photographs were used to illustrate an elementary treatise on art that is now in use in most of the large cities of this country. This book was written by the late Miss Seegmiller of Indianapolis, and in collecting examples of artistic composition for illustrations, she selected a large number of my photographs for the purpose. Miss Seegmiller was one of the best known elementary art teachers in this country, and her work is known and recognized everywhere. Paintings and drawings were easily available for her purpose; and, as she was not herself a photographer, her choice could hardly have been due to partiality.

"I do not know Mr. Simson, but I venture the assertion that he is somewhat lacking in information as to the status of pictorial photography at the present time, or he would not make such a statement as I have quoted above. I believe that a few visits to the Photographic Salons would teach him much as to what is being done in the matter of design and composition in photography.

"Sincerely,

"(Signed) BENJAMIN W. DOUGLASS,

"December 20, 1914."

Solo Flash Powder Popular

While Solo flash powder has been on the market but one month, the manufacturers report that the number of interested photographers who have sent in trial orders far exceeded their expectations, and to date there has not been one complaint registered against Solo. The many excellent qualities of Solo, viz.: non-caking, no sediment, minimum amount of noise and smoke and great actinic value, should surely appeal to the photographer, especially at the prices of eighty cents and twenty-two cents per two-ounce and one-half ounce box respectively. Due to the foreign disturbances, the cost of most powders has advanced, but even under normal conditions the consumer actually saves from twenty-five to thirty-three and one-third per cent on every box of powder when Solo is selected. If you are really interested in saving on your expenses while using a very reliable product, we strongly advise you to send a trial order for Solo to the wholesale agents, Frank Harrison Company, 766 Cauldwell Avenue, New York City.

Flash Firing Device

One of the greatest improvements made in flashlight apparatus during the past few years, is the new Prosch Dry Battery Cartridge. By the use of this cartridge it is possible to fire eight or more flashbags, each twenty-five feet apart, simultaneously, from a small pocket dry battery. It is needless to mention the many advantages and possibilities of flashlight work when such a convenient method of firing is offered. The photographer can now go into out-of-way districts and make a flash involving several bags, using his own current instead of having to depend upon the house being wired for electricity. A card addressed to the Prosch

Manufacturing Company, 205 East Nineteenth Street, New York, will bring you their latest book on flashlight products.

Bargain List No. 126

This new list from Willoughby's is somewhat of a departure, as Mr. Willoughby has decided to discontinue the elaborate bargain list issued once or twice a year and substituted therefor a less bulky one on light paper that is mailable in an ordinary business envelope. Getting these lists out more frequently will materially decrease the danger of purchasers finding that just the camera or lens which they desire has been sold owing to the list having been issued for some time before the order is sent in. Mr. Willoughby also advises that he is supplying German hydroquinone at one dollar and twenty-five cents per pound, and Belgian Cover Glass at the same price per gross. Our readers interested in bargain prices on cameras, lenses and other photographic goods should write for this latest list, addressing Charles G. Willoughby, 810 Broadway, New York City.

Women's Federation Officers

Below is given a list, but recently completed, of the officers and chairmen of the Women's Federation for the coming year, many of our readers no doubt being interested therein.

President Maybelle D. Goodlander, 409 East Main Street, Muncie, Indiana; First Vice-President, Clara Louise Hagins, 8 North State Street, Chicago, Illinois; Second Vice-President, Sara F. T. Price, 7430 Sprague Street, Mt. Airy, Pennsylvania; Secretary-Treasurer, Bayard Wootten, 94 Middle Street, New Bern, North Carolina, and Press Representative, Leslie Curtis, "Hazelwood," Muncie, Indiana.

The Chairmen of Sections are as follows: Section 1, Hallie Elizabeth Wilson, Berlin, New Hampshire; Section 2, Ella G. Ball, 119 College Avenue, Lancaster, Pennsylvania; Section 3, Harriet Edna Conk, 1012 East McMullen Street, Cincinnati, Ohio; Section 4, Elizabeth Schliepman, 369 Boyle Avenue, St. Louis, Missouri; Section 5, Helen Francis, 612 Kansas Avenue, Topeka, Kansas; Section 6, Gertrude E. Mann, 145 Auditorium Building, Minneapolis, Minnesota, and Section 7, Margaret Craig, 817 West Twenty-third Street, Los Angeles, California.

Negatives Wanted

Burke & James, Incorporated, desire to secure a quantity of negatives of unusual interest or merit for making sample prints. For each acceptable negative they will give a gross of Rexo paper of corresponding size.

A sample print of each negative you desire to submit should be forwarded to them, and if it appears acceptable, they will request that the negative be sent them subject to their final approval. The paper will be forwarded prepaid upon the acceptance of the negative. Every care will be used to safeguard negatives while in their possession, but they cannot accept the responsibility for loss or breakage in transit. Extreme care should be used in packing glass negatives. Always send sample print for inspection. Do not forward negatives until requested to do so. Do not neglect this, sending sample prints to Burke & James, Incorporated, 240-246 East Ontario Street, Chicago, Illinois.

Guaranteed Absolutely Accurate

Such of our readers as are contemplating the purchase of a new shutter or the purchase of a new lens with shutter fitted, should investigate the merits claimed for the Ilex line. The importance of having the intermediate speeds of a shutter fairly correct is obvious, in fact, for general use it would seem to be much more important than the actual achievement of a very high speed, although the Ilex Acme shutter has a speed of one three-hundredths of a second. The line is handsomely finished and in addition to being most reasonable in price, the manufacturers guarantee every shutter they make to be mechanically perfect and absolutely accurate, the purchase price being cheerfully refunded if found otherwise. Do not neglect to write for a catalogue explaining the mechanism and giving full details concerning their shutters, addressing Ilex Optical Company, 563 Ilex Circle, Rochester, New York.

An Overexposure-Proof Plate

The new Jougla "Intensive" plate is one that should certainly interest our readers who are inclined to experiment as well as those who are seeking for a plate that is more adapted to difficult situations. The manufacturers claim that this new plate, though extra rapid, possesses extreme latitude and the

power of adapting itself almost automatically to practically every exposure. An exposure of even twenty times normal, one which would result in failure with an ordinary plate, still yields a perfect negative with this new product. This peculiarity of the "Intensive" plate makes it adapted to all kinds of photography, whether in the studio or outdoors, and reduces the percentage of failures to almost nothing. The makers claim that anything that can be accomplished with any rapid or slow plate can be easily and safely achieved with this.

While this new plate is not backed, it is non-halation, and when used with a ray-filter, it yields the same color rendering as does an orthochromatic plate. As the plate admits of great overexposure, users will find it convenient to double or treble the estimated time required, and thereby secure ample exposure for the shadows with every assurance that the final results will be satisfactory. The emulsion is a special one, and while the plates may be developed with any good developer, the manufacturers recommend the usual slow ones, such as Glycine or Hydroquinone, according to the formulas furnished by them.

Full information can be obtained by addressing Lumiere Jougla Company, 75 Fifth Avenue, New York City.

Illinois College of Photography

Professor C. W. Dishinger has returned from a two weeks' vacation at his former home, Mobile, Alabama.

Miss Kate Harrison has also returned to finish her photographic course, after working the past several months in a Texas studio.

Among the students enrolling for January we find the name of H. K. Kudo, of Kumamoto, Japan, a city distant about eleven thousand miles from Effingham.

J. Urell, of North Adams, Massachusetts, has returned to the college to finish his course, after having worked the past two months in a studio at Paris, Illinois.

Professor Cook, of the operating department, is very much pleased with a new model or "lay figure," which has been added to the equipment in his posing rooms. The figure will enable Mr. Cook to explain to the students how to arrange the various kinds and styles of draperies employed by lady subjects.

CAMERA WANTS

Advertisements of the above nature shown below will be inserted under this heading at the rate of fifty cents each insertion, for twenty-five words or less; each additional word, two cents extra, cash with order. Those of positions wanted inserted free. No business advertisements accepted.

RETOUCHING WANTED At home; prompt attention given orders; seven years' retouching for Arnold received from city or country; moderate Genthe. Mrs. Anna Josselyn, phone Franklin 7799, 1400 Washington Street, San Francisco, Cal.

10x12 GUNDLACH Rectigraph lens, newly fitted with Iris diaphragm; list \$60.00; will sell for \$25.00. N. C. H., care "Camera Craft," San Francisco, Cal.

ATTENTION PHOTOGRAPHERS A modern flat, especially built for photographer, to rent at 427 Presidio Ave., San Francisco; studio is large and best lighted in city; worth looking at; owner will fix to suit. See agent or phone Fillmore 1837. Jesse Miller, 507 Mission St., San Francisco, Cal.

FOR RENT Studio in fine location in Springfield, Ill. Has been established thirty years. Finest skylight in the city. Address Berry's Music Store, Springfield, Ill.

5x8 GOERZ Dagor anastigmat No. 3, series 3, in new Optimo shutter; 2 Jena glass ray filters. Cost \$91.00; for \$45.00. G. C. Bishoff, Columbus, Kan.

POSITION WANTED In San Francisco by experienced finisher and photographer. Can take full charge of finishing plant or kodak store. Good references, moderate wages. Address W. B., care "Camera Craft," San Francisco, Cal.

FOR SALE Photo studio in town of 2,500, logging camps, good county and several small towns to draw trade from. Studio ground floor \$8,000 fireproof cement building, north light, fitted to 11x14. Also carry supplies, kodaks and do framing. Doing excellent business. The person buying must have money and be a No. 1 photographer, both inside and out. No frivolous inquiries answered. Good reason for selling. The Drake Bros.' Studio, Silverton, Ore.

COMBINATION Minute post card machine and 5x7 folding camera, takes direct on post cards, finishes in camera in minute, no darkroom, with supplies cost \$35, take \$15. Also Mandellette Minute post card machine and supplies, \$4. Bee meter, new, 75 cents. No. 3 folding kodak, \$9. Or best offer. Write G. F. Green, Brewster, Wash.

FOR TRADE A Vest Pocket Ica camera, anastigmat lens, six extra plate holders; for a good enlarger, one burning acetylene preferred. N. R. Piper, Angels Camp, Cal.

WANTED TO RENT Or lease up-to-date studio in good live town for six months, with option to buy if satisfactory; must be on the Coast; state all in first letter and how many other studios, if any. Address H. C. Smallfield, P. O. Box 35, Lynden, Wash.

POSITION WANTED By young man 27 years of age. Have had 5 years' experience in photographic work. Minnesota, Wisconsin or Illinois preferred. Careful worker, no bad habits and references furnished. Address J. R. Matson, 9 Buckeye St., Amherst, Ohio.

FOR SALE Studio in North Missouri, county seat, population 2,300, large territory to draw from. Only ground floor studio in town. \$1,000 has been offered twice for this studio and refused about a year ago. This studio is well equipped. Owing to other business in the West will take \$600 for quick sale. Address O. B. Halstead, Unionville, Mo.

RESIDENCE STUDIO Wishing to retire from photographic business, I will sell my elegant residence studio, an ideal California home, located in the finest section of this city of 400,000 inhabitants. Studio, equipped with all modern conveniences, has 9 rooms, including large skylight room, also garage. Rent reasonable. Address Aune, 669 W. 23rd St., Chester Place, Los Angeles.

WANTED, A PARTNER In an old established photo supply business, doing from \$40,000 to \$50,000 a year now, but want to increase the business and get the business that is available. Will take \$5,000 or over to handle it. Young man preferred, who understands bookkeeping and office work. If you have the cash, this is the best proposition on the Pacific Coast, as your money will be guaranteed safe. Write Photo Supply, care "Camera Craft," San Francisco, Cal.

FOR SALE 5x7 Auto Graflex fitted with Goerz Dagor No. 3 lens, 2 Goerz compensating ray filters, film pack adapter, leather carrying case, magazine plate holder model A, 6 double plate holders. Cost \$208.50. Bargain at \$125. Fine condition, practically new. H. B. Brockett, Sundance, Wyo.

FOR SALE Pocket focal-plane camera, 2½x3½ (Goerz Anschutz style), imported, well-known, high-grade make, Zeiss Tessar, 3 double plate holders, film pack adapter, never used. Cost \$91, will take half. Address Particulars, care "Camera Craft," San Francisco, Cal.

STUDIO FOR SALE Central California, population 3,000, oil fields, and five miles distant another small place to draw from of 5,000; nearest competition 35 miles distant. Prices range from \$3.50 to \$20 per dozen. Ground floor, 5 years' lease, everything complete up to 11x14. Running \$300 per month. Will bear the closest inspection. Invoice past \$1,200, sell for \$900 cash. Address M. S. C., care "Camera Craft," San Francisco, Cal.

WANTED Fast 3¼x4¼ lenses, one in barrel, other in shutter. Give particulars with best price quickly. Hal G. Hall, Box 959, San Diego, Cal.

POSITION WANTED By young man as an assistant in studio, kodak finishing preferred but have some experience in operating and portrait work. Willing to begin on a small salary. Best references. Address V. L. Walker, Dardanelle, Ark.

POSITION WANTED By all-around, experienced commercial photographer. Will furnish all equipment. W. B. Sullivan, 3138 N. Senate Ave., Indianapolis, Ind.

FOR SALE Back numbers of CAMERA CRAFT, unbound, complete 1909 to date, in fine condition. Make offer. C. L. Judd, Anacortes, Wash.

POSITION WANTED In studio or would rent small studio. Can do any ordinary studio or view work. Address W. G., care "Camera Craft," San Francisco, Cal.

FOR SALE 4A kodak, Tessar lens, Volute shutter, rack and pinion for focussing. Complete outfit cost \$151. Perfect condition, little used, \$85 cash. Dr. Jay Tuttle, Astoria, Ore.

FOR SALE 5x7 home portrait Graflex with case, 6 holders and case, one 6½x8½ Euryplane f:4.5 lens. Outfit new cost \$265. Make offer to George W. Miller, 320 Market St., Room 43, San Francisco, Cal.

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SAN FRANCISCO
CALIFORNIA

In
1909

*The Veteran and
Leading New York
Photographer
Geo. G. Rockwood*

In
1915?

writing for the Photographic press in
1909 made this statement:

"Now, of all men on earth, there is not one more anxious to make perfect work than I, and the matter of expense and trouble in using paper has never been a dominating thought; but I sought *always the best*. In the midst of these trials (seeking the best) I frequently stopped to admire the beautiful sepia prints of a superb artist friend—believing he had some new printing out (Platinum) paper. Finally, I went into his studio, and was informed that it was CYKO—the same brand and make of paper I had just selected."

CYKO has since made greater forward strides than any other paper.

Can you afford to use any other paper in 1915?

ANSCO COMPANY

Binghamton, N. Y.



DANSE CHAMPETRE
By H. D'ARCY POWER


CAMERA

CRAFT


A PHOTOGRAPHIC MONTHLY**FAYETTE J. CLUTE, Editor****CALL BUILDING****SAN FRANCISCO****CALIFORNIA**

VOL. XXII**MARCH, 1915****No. 3**

A Simple Daylight Enlarging Apparatus**By Charles F. Rice**

With Two Diagrams by the Author

Light—negative—lens—sensitive paper.

These four things, arranged in that order, are the main essentials in photographic enlarging. The light shines through the negative, and then through the lens, which collects the rays and throws the enlarged image on the paper.

Our problem is to manage these four factors and bring them under our control, in the most convenient and economical way, so that they will bring about the desired result,—the impressing of an enlarged image on the sensitive paper.

Ready-made enlarging apparatus there is on the market in great variety and price. The simplest and cheapest is that form of fixed-focus enlarger of which the Brownie enlarging box is typical, and the smallest size of which sells for two dollars. From this they range up to the elaborate electric arc or nitrogen lamp apparatus, which, with full equipment for enlarging from 5x7 negatives, sells for nearly a hundred dollars. I have before me a book in which the writer suggests a considerable variety of enlarging apparatus that is home-made, at small cost for material.

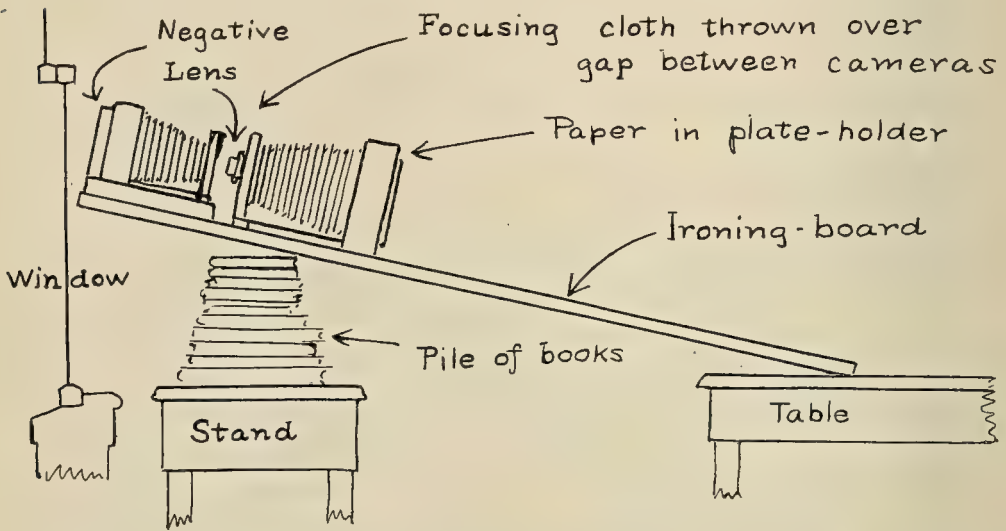
Amongst all these many different kinds of apparatus there is not a single one that would meet my own particular requirements. The simpler ready-made enlargers were too severely limited in their range of adjustment, while my pocketbook would hardly stand the strain of buying the really efficient kind. The many ingeniously devised home-made enlargers, of undoubted efficiency

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when properly constructed, were too much for my very moderate mechanical skill.

With the idea that there are many other amateurs who, like myself, are limited both in pocketbook and mechanical skill, I am going to tell how I surmounted my difficulties and secured an 8x10 daylight enlarging outfit that is entirely practical and convenient, and unexcelled in quality of results.

Experiments with my good wife's ironing-board suggested the form of arrangement that was finally adopted. I had two cameras, and with these and the ironing-board I used to make very satisfactory enlargements. The ironing-board was tilted up to the window, and the two cameras placed on it, thus:



The smaller of the two cameras was 4x5, the larger 5x7. The lens and front-board of the 4x5 were removed altogether, and the lens of the 5x7 used for enlarging. The back of the 4x5 was also removed, and a printing frame placed at that point containing the negative. The sensitive paper was put in the 5x7 holder. A focusing cloth thrown over the gap between the two cameras shut out the side light.

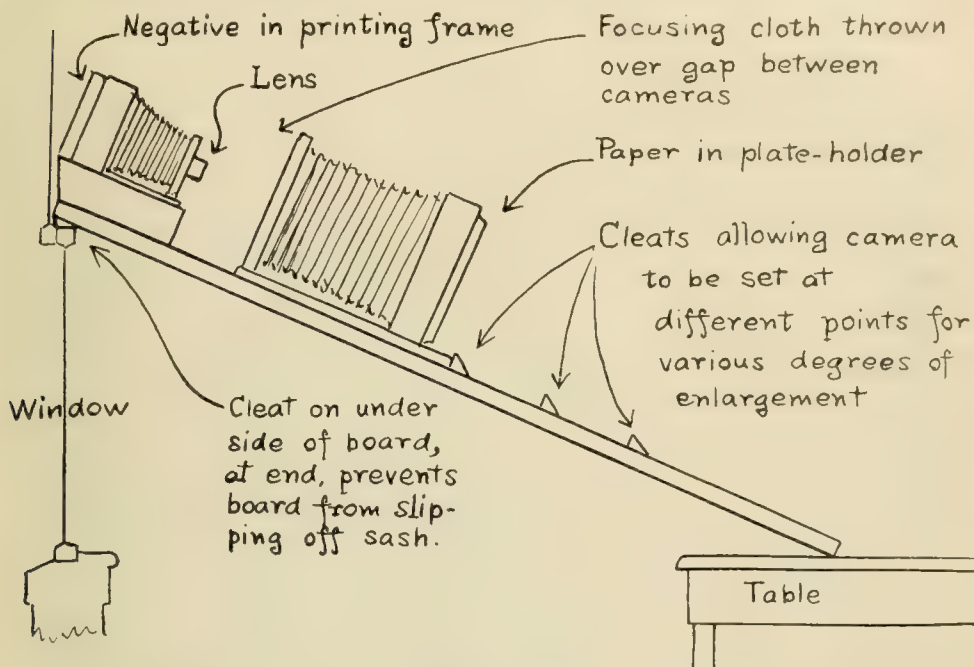
Obvious difficulties of this "apparatus" will occur to every reader. One principal drawback was that if the board was tilted enough to clear the horizon and get unobstructed sky for illumination, there was difficulty in keeping the camera from sliding down the board. But the one great advantage was that of ground-glass focusing. I actually turned out many excellent enlargements with the old ironing-board, and at no cost whatever for extra apparatus.

Different size negatives are accommodated by kits in the printing frame. Various sizes of paper are likewise provided for by kits in the 8x10 holder, the ground glass being marked to correspond. This outfit is used not only for making enlarged prints, but also for negatives and positives, either enlarged or reduced, and for lantern slides in cases where the original negative is too large to make the slide by contact.

But, you say, I had the benefit of two cameras to start with. Very true.

A SIMPLE DAYLIGHT ENLARGING APPARATUS

Any amateur who has only one camera, however, can do as I finally did. I bought an 8x10 camera, regular old square-bellow view camera, without lens or shutter, and, with a six-foot board, evolved the following:



This works on exactly the same principle as the former ironing-board arrangement, but it is better in various ways. The cameras rest firmly against cleats, and the 8x10 can be placed at several different distances down the board by having cleats placed at different points. A cleat on the under side of the board at the window end prevents it from slipping off the sash. The small camera focuses by moving the front, as do most small cameras, and the 8x10 focuses by moving the back. By removing the 8x10 front-board and using the lens in the smaller camera, two focusing adjustments are afforded, either or both of which may be employed, and every smallest variation in degree of enlargement may be obtained. With the 8x10 in one certain position, I can get the image on the ground glass any size from half that of the original negative to more than three times as large, and by placing the 8x10 at the extreme lower end of the board, I can get an enlargement of twelve diameters. Best of all is the accurate ground-glass focusing.

Although I call this a "daylight" enlarging outfit, there is nothing to prevent its use with artificial light. In fact, I have used the apparatus with a small electric arc lamp as the source of light, with considerable satisfaction. Personally, however, I prefer daylight; it is much cheaper and cooler.

If the amateur has a room all his own, the whole arrangement can be kept set up ready for instant use, and then it will be hardly more trouble for him to make an enlargement than it would be to make a contact print. But if he is situated as I am, this form of enlarger has positive advantages in being

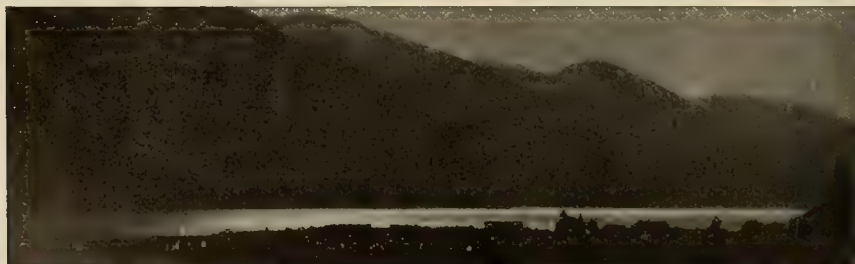
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readily dismantled in a few minutes; the board standing up behind the dining-room door, the 8x10 camera going into its case in the closet, the smaller camera into its own place somewhere else. And the outfit is almost as easily and quickly set up again. It requires absolutely no permanent fixtures attached to doors or windows, and calls for almost no mechanical skill in putting it together.

I said before that any amateur who has one camera can use it as a part of an enlarging arrangement similar to my own. It will be obvious that the camera must have a removable back and a focusing adjustment. If it has a long bellows extension, so much the better. If not, the same effect may be secured in a measure either by using a portrait attachment on the lens, which reduces its focal length; or by building a simple box arrangement to fit at the back or window end of the camera as it is placed on the board, to increase the distance between the negative and the lens. 8x10 is probably as large as the owner of a $3\frac{1}{4}\times4\frac{1}{4}$ or 4x5 camera will care to enlarge, though the same plan could be advantageously employed up to 11x14 or even larger. On the other hand, there is no reason why a small pocket camera, $1\frac{3}{4}\times2\frac{3}{8}$ or $2\frac{1}{4}\times3\frac{1}{4}$, could not be coupled up on a board with a 5x7. But in any case I would advise the "view" form of camera for the large one, and one with a large, square, removable front-board and a back-focusing adjustment.

How much did my "apparatus" cost? Fifteen dollars, I believe it was, for the 8x10 camera, and a little over a dollar for the board. A second-hand camera that would answer every requirement could probably have been bought for less than ten. I am honest in saying that I would not swap my outfit for any other 8x10 daylight enlarger that I ever heard of, whatever its price might be.

New facts and ideas have been pouring into the national consciousness from the physical sciences during the last half century, tending to transform in countless subtle ways man's sense of his place in the universe, his ideas of brotherhood, of justice, of happiness, and his orientation toward the Unseen. The half-mystical control that has of late years been won over physical forces, the increased speed with which news flies from country to country, the cheap and swift modes of travel from land to land, which break down the barriers between the most widely diverse civilizations—all these causes are reacting continually upon the life of the spirit, are stirring men's minds to new thoughts and new moods, and developing in them new aptitudes and new powers.—LEWIS E. GATES.



The Amateur and the Anastigmat

By P. M. Bruner



With Illustrations by the Author



PORTRAIT OF CHILD—Bausch & Lomb Ic Tessar, Cramer Instantaneous Iso plate, exposure five seconds at $f-4.5$. Observe the slight depth of field and that the child's face is just out of sharp focus through error in judging distance.

HALL I get an anastigmat? That is a question a good many amateurs ask themselves at some, usually an early, period of their photographic career. Answering the question, let me ask: Why do you want one? You will no doubt say for speed; and that is, I think, the chief reason why the average amateur purchases one, although some may give the added reason that they desire increased sharpness and covering power.

Now, before you spend your hard-earned money, let me warn you just what you may expect from such a lens. A good many amateurs buy a lens working at $f-4.5$, thinking that as long as they are after speed they might as well go the limit. And what I am going to say about the $f-4.5$ lens applies to the slower anastigmats as well, but in a lesser degree.

Let us suppose the amateur has decided on the instrument he wants, has ordered and received it. He opens the package, examines the lens for any defects, unscrews the cells, wipes imaginary dust from the perfectly clean inside surfaces and then probably notices several small bubbles in the glasses of which the lens is made up. If he has never seen an anastigmat before, his heart goes down into his boots and he immediately decides that it is a defective lens. Either the instrument is at once sent back or a strong letter of protest goes to the manufacturer or dealer by the next mail. In due time he finds out

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that practically all anastigmats have air bubbles and that these characteristic and negligible flaws may be considered proof of the excellence of the lens.

On the other hand, he may escape this disappointment through knowing all about bubbles, and in that case he is only anxious to get the new lens on his camera and give it a trial. He takes a piece of cardboard or cigar-box wood, fastens the lens thereto and sticks it on the camera. All this time he has visions of a most beautiful image that he expects to see on the ground glass, and therein lies one of his disappointments. Excepting the increased brightness due to the larger aperture of the lens, the image is not very different from the one given by his rectilinear lens. Openly, of course, he will rave over the beauty and fineness of the image, but inwardly he is disappointed and wonders what can be the matter.

However, as he is in a hurry to see what kind of picture it makes, he focuses on some distant trees to get the infinity point, fastens the new focusing scale to the bed of his camera so that the hundred-foot mark comes opposite the pointer, opens wide the diaphragm and goes forth to make pictures. No one looks with more contempt upon the poor unfortunate who uses a rectilinear than does the average amateur with a newly acquired anastigmat. This latter person walks around, snapping at this or that, blissfully confident that his fine lens will take care of all such difficulties as lighting, position, etc.

Suppose, however, that his exposures are fairly correct,—although it is safe to say that they are not, and that he has used a tank and thereby denied himself the pleasure of seeing the wonderful picture come up in the developer. He dries the negatives and is dismayed at finding the image blurred, except for a small part; and, what is worse, he finds this few feet of sharpness is not in the right part of his view. He hastens to make prints, hoping that the negative will print better than it looks, only to have the horrible truth forced upon him. That depth of focus so dear to his heart is not there. He either tells his expectant friends that something has happened to spoil the whole batch or boldly shows the prints and listens while he is told how big a fool he is for spending so much money on a lens.

However, he decides to make one last trial before condemning the lens altogether. This time he goes out in a more humble frame of mind, stops the lens down to $f-8$ or $f-11$, using his focusing scale more carefully, finds that his pictures look more like the ones taken with his rectilinear lens, that is, they look fairly sharp and clear. Thinking that he now knows how to use the lens, having secured several sharp negatives, he has a strong desire to see them enlarged, so he picks out one of the sharpest and has the dealer enlarge it to 8×10 . His disappointment, when he sees the result, has no bounds. The enlargement is far from sharp. All the talk about sharp enlargements from sharp negatives passes through his mind and right there he decides that his lens is a very poor one. He may even go so far as to sell it probably for whatever he can get and go back to his old one, thereafter decrying all anastigmat lenses and that particular make in particular.

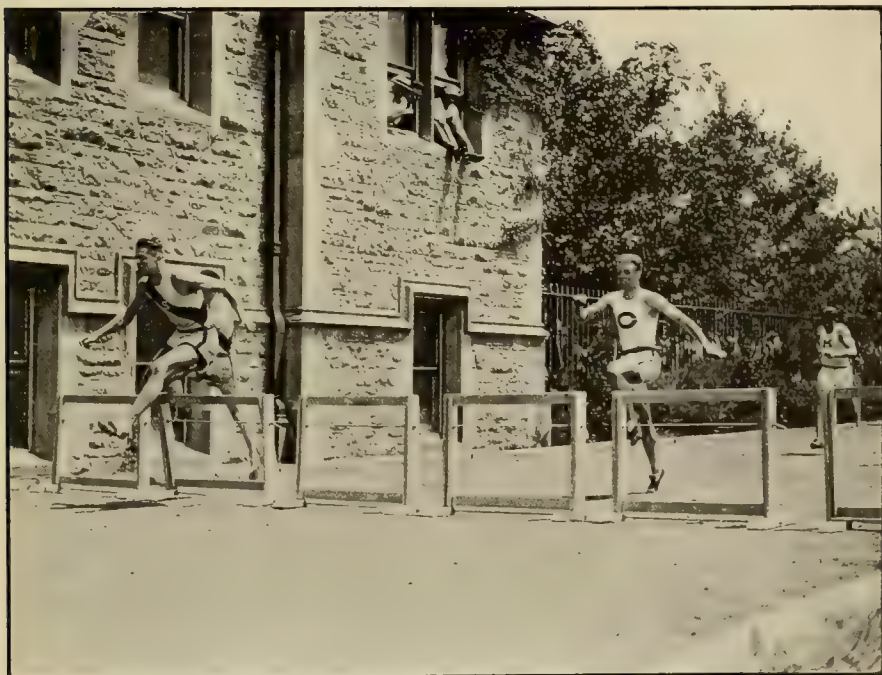
Now, my friends, note carefully, and I will tell you what was the matter. There was only one chance out of a thousand that the lens was to blame. In the first place, a lens working at $f-4.5$ has an extremely limited depth of focus

THE AMATEUR AND THE ANASTIGMAT



THE TENNIS PLAYER—Bausch & Lomb Ic Tessar, Sigma plate, exposure one eight-hundredths second at f -4.5. Shows slight depth of field at fifty feet.

at that aperture. When focused at six feet distance, the depth of focus is only a few inches. When focused at twenty-five feet, the depth of focus is only a few feet. Therefore, if an object closer than fifty feet distant is not focused perfectly sharp, a sharp enlargement is impossible. This is a handicap from which all fast lenses suffer in proportion to their speed. There is an optical law controlling this, and all f -4.5 lenses cannot give the same depth of focus as



THE HURDLE RACE—Bausch & Lomb Ic Tessar, Graflex camera, exposure one five-hundredths at f -5.6. Pictures used by courtesy of Folmer & Schwing Division, Rochester

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an f-8 one any more than a 4x5 plate can contain the same area as does an 8x10.

You will perhaps ask how others secure the fine results that they do with these large-aperture lenses. There are two things that must be done. The first is to get a good reflex camera, and the second is to get the lens properly fitted. When you get your lens, do not stick it on the camera any old way. It is important, very important, that the plane of the diaphragm be exactly parallel to that of the plate or film. Next, in fitting the focusing scale, focus some distant point, one that includes fine detail, on the ground glass. Use a magnifying glass and focus the detail in the selected distant object perfectly sharp. Then, and only then, fasten the scale on the bed of the camera so that the infinity point is directly under the pointer on the scale. It is hardly necessary to try out every distance marked on the scale, because the scale sent out with a fine lens would hardly be at fault; but one might measure off the different distances and see if the focus looked right just to make sure. You can rest assured, though, that the image cannot be focused perfectly sharp by the eye alone. I had this point brought home to me very strongly on one occasion on which I was photographing some subjects that I specially desired, using an f-6.8 lens that I had neglected to adjust properly to my camera. The 4x5 negatives appeared sharp to the eye, but a three-diameter enlargement was useless for reproduction. I afterwards discovered, by the aid of a magnifying glass, that the lens was one sixty-fourth of an inch too near the plate for sharp focus. This shows that the eye cannot be trusted to get the utmost sharpness possible with the anastigmat. Some manufacturers even add a small magnifying glass to their reflex cameras. So much for speed and sharpness.

As to covering power, fewer amateurs are interested in this quality of the anastigmat, although the professional appreciates its ability to cover a larger plate than the one for which it is generally employed, as he can use it as a wide-angle lens in a larger camera. A rectilinear lens will only cover the plate for which it is made. For instance, the $3\frac{1}{4} \times 4\frac{1}{4}$ size is usually fitted with a five-inch focus lens, which covers the plate fairly well when wide open, but does not give sharp definition at the corners until it is stopped down. A very slight elevation of the lens board raises the circle of illumination so that it no longer covers the lower corners of the plate, that part occupied by the sky in a landscape view. If but a slight rise is used, so little that the plate is still covered, the lens requires some stopping down to give the necessary sharpness at the edge of the circle of illumination where the plate corners cut it.

Anastigmats usually have a much larger circle of illumination for the same focal length. A five-inch anastigmat will cover a $3\frac{1}{4} \times 4\frac{1}{4}$ plate perfectly and give the sharpest definition clear up into the corners at full aperture. The rising front can be used to the limit and the plate will still be covered, though the lens will have to be stopped down slightly to give sharpness in the corners. This covering power varies in different makes and in lenses of different speeds of the same make. In construction, the symmetrical anastigmats have greater covering power than the unsymmetrical. Practically all f-4.5 lenses have much less covering power than the slower anastigmats, though there are a few makers claiming angles of eighty-five degrees for their fast lenses. As a rule, the f-6.8 lens has the largest circle of illumination of them all, excepting those especially

THE AMATEUR AND THE ANASTIGMAT



ENTRANCE AND GROUNDS Bausch & Lomb Ic Tessar, Cramer Instantaneous Iso plate, with six times ray filter; exposure fifteen seconds at f-32

designed for wide-angle work, and these last are not nearly so fast. For instance, a five-inch focus Goerz Dagor f-6.8, which is made for a $3\frac{1}{4} \times 4\frac{1}{4}$ plate, will cover a $6\frac{1}{2} \times 8\frac{1}{2}$ plate, but to get sharp definition in the corners, stopping down to f-32 becomes necessary. It is not the only lens that will do this, but it is an example of remarkable covering power. For the benefit of those who do not realize the value of this extra covering power, I will say that it is necessary when photographing tall or elevated subjects that cannot be properly placed on the plate without pointing the camera upwards. The camera should be held perfectly level and the front-board raised until the subject is rightly placed on the plate.

And, my friends, I am not trying to argue you out of buying an anastigmat; far from it. I desire only to warn you against and save you from the mistakes and disappointments that I met with and am daily seeing others experience.



MARINE VIEW—Bausch & Lomb Ic Tessar, Cramer Instantaneous Iso plate, with six times ray filter; exposure one-tenth second at f-5.6.

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When I first considered getting one, I read all the magazine articles and catalogues covering the subject that I could get hold of. While the universal advice was to get an anastigmat for the best results, the disadvantages of large stops and high speeds were touched upon very lightly. I bought the first one mainly for speed and sharpness. The lens was a good one, but I did not know how to use it properly, being unprepared for the things I discovered when I came to try it out. If I could have read or had I been told what I am trying to explain to you, I might have been saved considerable worry and expense. The anastigmat will do everything the rectilinear can and a whole lot more, but it requires most careful handling. For the average amateur the rectilinear is an ideal lens, as with it good work can be done comparatively easily; but for the best results under all circumstances, take my advice and get an anastigmat and learn how to use it. At present I have two; one, working at $f-4.5$, I am using less and less each year, not because it is not a good lens, but because its depth of focus at its full opening is extremely small. When stopped down for such depth of focus as most subjects require, it has no advantage over the other that works at $f-6.8$, which last I use for almost everything.

As one last piece of advice, and I hope you will heed and remember it: Do not feel that you must have a lens faster than $f-6.3$. I can perhaps explain my reason for what I say by giving you an extract from the catalogue of the Multi-Speed Shutter Company:

"Suppose that it is very dull light, and that an exposure with the lowest possible speed that could be applied to the subject has been made. The plate shows only the high lights, such as sky and some white objects in the landscape. If a lens twice as fast had been used, we would have gotten only twice as much and the plate would have hardly looked different from the first one taken with the slower lens. Now, if we bear in mind that five times under-exposure or five times over-exposure gives negatives that will give the same results on paper, providing the proper paper (hard or soft) is used, we can readily see that the faster lens has not been able to bring us within the latitude of a printable under-exposure.

"Fast lenses cannot do the things that are impossible for slower ones. If light conditions are very good, the fast lens will show a stronger negative, but the negative resulting from the slower lens is liable to hold its own as a first-class exposure, showing no speed movement, no thinness, and will not require any special care in developing, but can be treated as if it were an ordinary bulb or time exposure."



Domestic Light Photography

By Gerald Martin Loeb



With Illustrations by the Author



MY BROTHER—Light, ninety-six candlepower about four feet; stop f-4.5; Wratten panchromatic plate; exposure thirty seconds

THE making of pictures by means of the ordinary light used for the illumination of the home, opens up one of the most interesting fields of photography to the earnest worker. Copying, still life, interiors, and even portraiture, under favorable conditions, are easily possible. Such lighting, although rarely employed, has the advantage of being quite economical, and in some cases it will be found superior to the usual flashlight. Giv-

ing the matter but a little serious thought, it would appear that about the only serious difficulty lies in the fact that the light is weak or "slow." To somewhat overcome this, I have adopted a plan that I think I can best make clear by treating, first, the exposure, and then, the development of the plate. Let us first establish what may be called Standard Conditions requiring an exposure of three minutes, which last we will call the Standard Exposure, one that is not excessively long for most still life studies and not prohibitive in the case of portraits, particularly if an easy pose is secured.

To sum up the Standard Conditions: Room, about fourteen feet square. Color, walls neither very light nor very dark. Illumination, about ninety-six candlepower. Distance, about four feet. Plate, Wratten, Cramer or Ilford panchromatic. Lens, speed of, f-11 (U. S. 8). Subject, portraiture. Standard exposure, three minutes.

The room should be about fourteen feet square. Rooms smaller than ten feet square require but half the standard exposure, those larger taking double

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the exposure. A small room is practically a necessity for portrait work. The walls should be medium in color. If white, the standard exposure may be halved, and of course doubled for dark ones. The light should be about ninety-six candlepower. This is obtained, in the case of electric light, by using one forty and two twenty-four watt Mazda lamps. The ordinary Welsbach mantle is approximately thirty-two candlepower, and three would be required for standard conditions. The chandelier light ordinarily used to illuminate a room is generally quite adequate. Naturally the exposure varies proportionately with the power of the light, i. e., a lamp or lamps of twice the power would require half the exposure, and vice versa.

The distance from light of the principal objects should be about four feet. By this I mean the distance from the light of those parts of the subject desired plainly shown. The average interior will contain corners that will look more natural if not too well illuminated. The actinic power of the light varies as the square of the distance; for example, at eight feet the exposure is not twice but four times that at four feet. One should always remember to consider the distance from the furthest part of the subject in which detail is required. For example: With a subject posed in the center of the room, four feet from the light, a picture on the wall behind is to be rendered clearly so as to balance the composition, or perhaps a fully exposed background is wanted; measure the distance from the light to the wall carrying the picture or serving as the background, which distance, let us say, is found to be twelve feet. This being the case, the exposure required would be nine times the standard given above, as the actual distance, twelve feet, divided by the standard, four feet, gives three, which squared, gives nine.

The distance of the camera from the subject is immaterial, affecting only the size of the image. However, when the camera front is racked out further than the usual focus of the lens, as is sometimes necessary in still life studies or copying, the indicated *f* values of the diaphragms are no longer correct, and the exposure must be increased proportionately.

The choice of a plate is of paramount importance. In general, it may be stated that when using gaslight as an illuminant, a panchromatic plate, an orthochromatic plate of twice its speed, and an ordinary plate of four times the speed of the panchromatic, may be considered as requiring equal exposure. This only applies to ultra-rapid ordinary plates. The three-minute or standard exposure is based upon the use of a Wratten, Cramer or Ilford panchromatic plate. Orthochromatic plates of about the same speed, *f*-90 Wynne, require approximately twice the exposure of the panchromatic. Ordinarily plates have so little red sensitiveness that those of medium rapidity are useless, but ultra-rapid ones, such as Marion's Record, Lumière's Sigma, and Seed's 30, take but little if any more than the standard exposure; but I would not advise the use of these last when panchromatic ones are obtainable. When using slower plates than any of the above, the exposure should be increased proportionately.

The form of camera is of course immaterial, and as every lens has a speed of at least *f*-11 (U. S. 8), and if faster, generally requires stopping down to secure proper depth in all subjects except portraiture, that stop has been adopted as standard. A rapid lens is essential for portraits; a skillful operator, equipped

DOMESTIC LIGHT PHOTOGRAPHY



INTERIORS EXPOSED IN ACCORDANCE WITH METHOD DESCRIBED

with one working at $f-4.5$, being able to make exposures as short as one-tenth of a second when all conditions are favorable. Knowing that three minutes is the standard exposure with the standard or $f-11$ stop, the exposure for any other larger stop is in proportion to the squares of the two f values: $f-4.5$, for example, requires an exposure of one-sixth the standard, because the square of four and five-tenths is practically one-sixth the square of eleven.

Considering various subjects, treat portraits according to the above suggestions; but, as giving full time is no drawback in still life work, a better negative will be secured by doubling the exposure. In copying, double the standard exposure and take special care to consider the exact distance from light, modifying exposure accordingly, and also for any unusual bellows extension. Use by preference a panchromatic plate, and in any case one that is slow and of fine grain, in this instance. In photographing interiors, measure from the farthest corner of the room to the light, make due allowance and then triple the determined exposure.



A POSED SUBJECT AND TWO STILL LIFE EXAMPLES. TIMED AS ADVISED

CAMERA CRAFT

The best way to develop portrait exposures made under these rather unfavorable (as to light) conditions, is by either the time, tank, or stand method. Heat the dish or tank to the highest temperature allowable by the particular brand of plate being used. Formalin, used as a dilute solution in which the plates are immersed before development, is useful to prevent frilling of the plates. When developing by these methods, the exact length of development will of course depend upon temperature and strength of the developer and upon the kind of plate being used. If the exact development time is not given with the formula you use, and the speed of development varies with different plates, Tabloid Rytol will be found useful, as with it is given a "tank table" showing time of development for every different plate, temperature and dilution. Watkins' Thermo method is good. Remember, panchromatic plates need a green safelight. As to developers, amidol is good because it contains no alkali, pyro-metol gives an image of an amber tone, that makes a fine printer, but outside of these, all developers are practically alike. If difficulty is experienced in keeping the developer at an even temperature, heat a pot of water to the required degree and then place therein the tank or tray containing the warm developer and plates, taking care that the water and developer do not mix.

When working with warm developers, the plate must not be transferred to a cold hypo bath. First immerse the plate for a few seconds in water of about the same temperature as the developer and then transfer into an acid hypo bath, that is also about the same temperature, where it can be allowed to gradually cool. From this point proceed as usual. I may add that Wratten plates will develop clean at a temperature of eighty degrees Fahrenheit, with no bromide used. If the plate used shows an inclination to fog from heat, do not add bromide, as that is equivalent to cooling the developer. Use another brand of plates. Other subjects than portraits develop as usual.

The illustrations shown herewith are all from negatives made in accordance with the plan or system of calculating the exposure that I have outlined. They are not offered as examples of highly artistic photography, but have been selected to show what can be done under varying conditions and with different classes of subjects. They will suggest possibilities that, in connection with a definite plan of determining the exposure, should encourage others to at least make a trial of this class of work.





A Satisfactory Home-Made Stereopticon

By Roland Giroux



With Illustrations by the Author

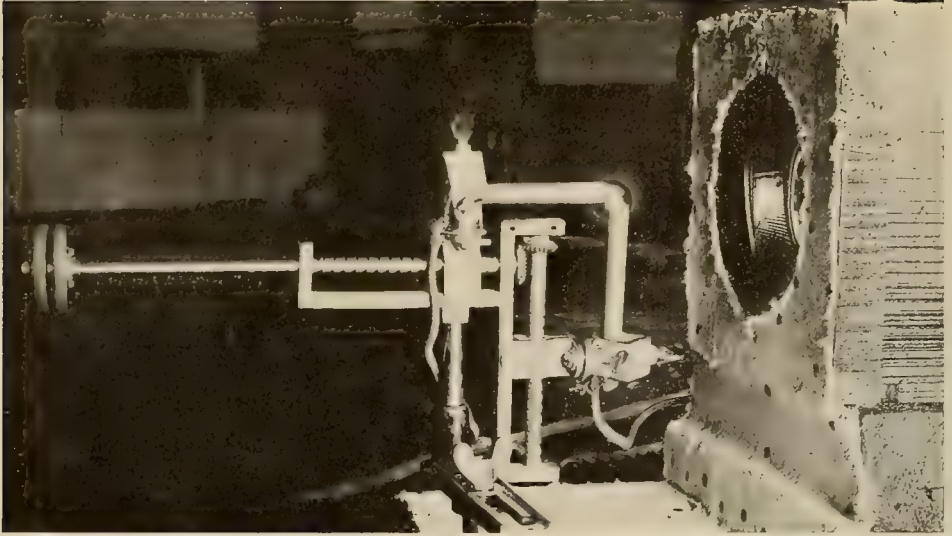
Many workers who would otherwise turn their attention to that delightful branch of photographic work which has to do with the making and projecting of pictures in the form of lantern slides, are deterred from so doing by the expense involved in the purchase of a suitable stereopticon or projecting apparatus. Even those workers with whom a monetary consideration is not of vital importance, feel some hesitation in making the initial outlay, fearing that possibly their interest therein, or perhaps their lack of skill, may result in the work being dropped at an early stage. Could the average worker make his initial venture into the lantern-slide field at a reasonable cost, he would feel more like doing so, even though well able to purchase the best of equipment a little later should he find his interest in the work to maintain.

Around here all my photographic friends have been talking lantern slides, and naturally I became infected and felt that I could not be happy without a set of slides from my negatives and a stereopticon with which to inflict them upon my family circle and my friends. Figuring it out I decided that I could construct a stereopticon for about fifteen dollars, complete, one that would be as satisfactory as my requirements demanded. Following is a list of the articles purchased; the necessary lumber, being such as can be found around any home, is therefore not included:

One hand-feed 90° arc lamp.....	\$ 8.00
One pair four and one-half inch condensing lenses, seven and one-half inches focus.....	2.20
One second-hand, ten-inch view lens.....	3.00
One pound No. 16 "Climax" wire for resistance.....	1.25
One-half pound sheet asbestos.....	.10
One lantern-slide carrier.....	.45
	<hr/>
	\$15.00

By substituting a nitro-filled bulb of two hundred and fifty watts for the hand-feed arc, the cost is reduced to less than ten dollars, as it would cost with socket about five dollars less and no resistance coil would be required.

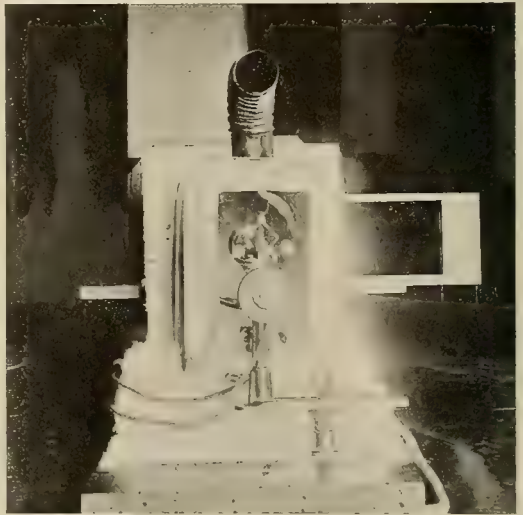
The condensing lenses are mounted in a block 7x7 in size, which is made three inches thick by gluing together two or more pieces of board placed cross-wise of each other to prevent warping. The two condensing lenses are kept about a quarter of an inch apart by two rows of small finishing nails that form



SHOWING LAMP AND CONDENSER MOUNTING WITH ASBESTOS PROTECTION

two circles inside the opening in this block. Each lens rests against one of these rows of nails and is held in place by a strip of small bamboo around the outer edge, thus permitting of their easy removal for cleaning. The arc lamp focusing arrangement is an old lathe tool rest that I happened to have lying around. Almost any device that would permit of the lamp being moved in any direction would answer. The lens board is about eight inches square, and, as can be seen in the illustration herewith, is arranged on a slide that permits it to be easily shifted backward and forward to focus. The 1x12-inch board used as a base is thirty inches long. No bellows is required, but one could be easily improvised if it was desired to give the apparatus a more businesslike appearance.

The lamp house is made from a sheet-iron can with one side and a large portion of each end cut away. The elbow is one used for ordinary galvanized-iron gutters and is quite inexpensive, should one not be available. The surface of the block in which the condensing lenses are mounted is covered with sheet asbestos, as are also its support and the base on which the lamp stands. A hole cut in the side of the "house" and fitted with a bit of red glass permits one to adjust the carbons while burning.



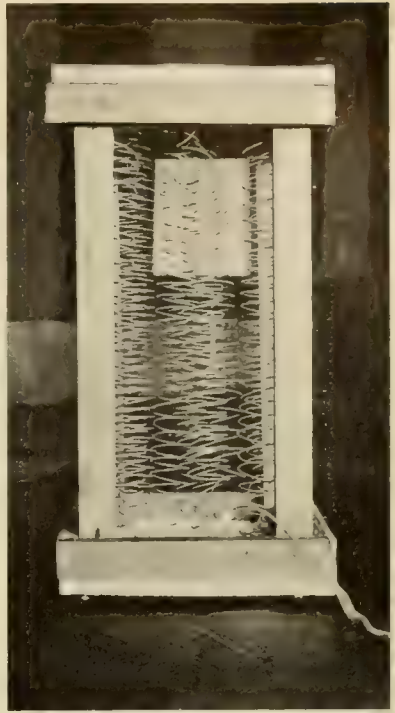
REAR VIEW OF STEREOPTICAN

The resistance coil, shown herewith, is made by winding the wire very tight and close on a smooth, round stick about an inch and a half in diameter,

A SATISFACTORY HOME-MADE STEREOPTICON

removing therefrom and cutting into pieces containing about twelve feet of wire. Using No. 16 "Climax" nickel-steel wire, one hundred and thirty-eight feet will be required for a four-ampere arc, sixteen feet less for a four and one-half, twenty-eight feet less for a five-ampere lamp. The necessary coils of Climax wire should be fastened in square formation inside a frame lined with asbestos and then connected up in series; that is, starting at the bottom of one corner coil, connect it to the bottom of the next, this last being in turn connected at the top with the top of its nearest neighbor, and so on.

This projector is used on an ordinary house circuit and is protected by a six-ampere fuse, which last I have never blown out. The light is very bright; in fact, I find it sufficient to successfully project autochromes and Paget color slides most satisfactorily. This device uses about the same amount of current as an electric toaster or flatiron, consequently is perfectly safe to plug in in the same way if the house wiring is not overloaded.



RESISTANCE COIL



STEREOPTICON COMPLETE READY FOR USE

The business man, lawyer, physician, printer, priest or poet who earnestly tries to serve his neighbors will earn both money and real happiness, but the man who works for money alone gets that for which he works and nothing else.—THE PRINTING ART.

Going After the Cash in the Country

By W. E. Lewis



With Illustrations by the Author



"TWO PRETTY OREGON HOP PICKERS"

In looking over some of my negatives the other day, I found a few that I thought might, together with a few words of explanation, interest the readers of CAMERA CRAFT. To begin with, I became tired of taking portraits, tired of trying to get something that people would buy; therefore, I disposed of my studio and decided to try country life for awhile, earning my salt as I enjoyed the pure country air of Oregon. To be sure, I have not made my fortune as a view man in the country, neither did I do so as a city photographer, but I do believe that, properly fitted out for the work, the wide-awake photographer will find better opportunities in the country than in the city with its keen competition and its larger proportion of people less able to indulge in luxuries. The country people do not feel the hard times as do those residing in the city, and they have more ready cash to spend. Of course,

should one go to a section where the people are scattered and are far apart, there will be too much time lost in making the round. And above all, one should not start out with the idea that country people do not know what good pictures are, for they do; and if one wishes to gain their good will, he must give them work that satisfies them, and at a reasonable price.

A good view man can keep busy nearly the entire year doing work in the country. After the rain or snow goes, Daddy Sunshine comes out with his warmth; and then he can catch Mr. Farmer plowing in the field, and post card pictures go pretty well with him if a good picture is secured, after which one can go up to the house and get all the little tots in one picture and another of them with the house included. Proofs should be finished of all pictures taken on any one day, and then show the next; or better still, the farmer and his wife

GOING AFTER THE CASH IN THE COUNTRY



"NONE ARE TOO TIRED TO POSE FOR THE CAMERA MAN"

should be shown a sample of the photographer's work and asked if they will consider taking a dozen of each if their own pictures are equally as clear.

In my work through the country, I have used a 5x7 Conley View Camera and carried three lenses; one an f-6 symmetrical of eight and one-half inches focus, one an f-8 rapid rectilinear of about six inches focus, and the third a supplementary wide-angle lens to fit over the last mentioned. I could have made



"WASHDAY HERE DOES NOT MEAN EVERY ONE OUT OF HUMOR"

CAMERA CRAFT

good use of a reflex camera, had I carried one, for pictures of stock or farm animals and other fast work. I used, for awhile, a team-drawn spring wagon with a small canvas dark-room built thereon. This last I found too small for practical use in work of any amount, besides being very unhandy and time-consuming. I had this dark-room made waterproof so that we could carry our bedding and all necessary photographic chemicals therein. Under the wagon seat we stored our cooking outfit and a large canvas was kept in the back of the wagon for an overhead cover to keep off the night dews. We would travel and take views all one day, show proofs and take the orders the next, and then make delivery the following or third day. I have, since starting out, found that the extra trip required to show the proofs could be saved. I now have some nice samples of my work and show them to the customers, asking them if they will consent to take a dozen, or two dozen, or whatever number I think they ought to order, if the views taken are as clear and bright as the samples shown. I never deliver less than a dozen post cards of a kind, as I find it does not pay. I guarantee all prints will be as clear as the sample shown, and I have no trouble delivering the order without showing the proof. This plan saves the extra trip, saves time and lessens expense.

I took a man with me, paying him forty per cent of the profits. He furnished the team and wagon, provided feed for the horses, besides driving and taking care of all that part of the outfit. While I did the view work, took the orders, and did the developing and printing, he did the cooking and some of the delivering. Our camp was always near a good, clear stream of water, or in a school yard with a good well handy. The dark-room, being small, became very hot during the day, so that all the work had to be done in the cool part of the evening, after sundown, or later. Another drawback lay in the outfit being so heavy that we could not get over the ground very fast.

These difficulties I have overcome by building a neat little dark-room, 5x6 feet in size, on one end of the porch here at home. I also have a daylight enlarger for work up to 16x20. I use daylight for my printing, and use an Eastman tank for my negative work, doing all my developing at night. After fixing and washing, I sometimes dry them in alcohol if I am in a hurry. Occasionally I get up early and print some of the orders so as to have them ready when I start out at eight in the morning. I now use a horse and buggy and make much better time, taking out enough plates for each day's work, going out through the country in all directions. I make it a point to get an order before exposing a plate on a subject, and I find that this can nearly always be done. If the people really want pictures, they will not hesitate to buy them before they see the proof, if one shows them what he can do and guarantees them their own pictures will be as good.

One should make his work as good as his word, and make this last as good as a bond. There has been a class of men traveling through the country who have taken views, taken orders, collected the money and then never been heard from. Others show samples of some one else's work and then try to deliver pictures of a worthless kind. I never try to secure payment until I deliver the work, and I never find it difficult to get my money. Dishonest men are a

GOING AFTER THE CASH IN THE COUNTRY



"FIRST AMERICAN HOP PICKERS"



"A FRIENDLY GAME IN PROGRESS"

disgrace to the profession and their methods hurt the honest and capable view man, as they make the people afraid to do business with any traveling photographer who may come their way. If one cannot get out good work and be honest with the people, he should not disgrace the profession and ruin the chances of good men who can deliver the goods.

Later comes the threshing season, which, with its threshing crews, and good pictures of these men, at work and at the cook-car, means money in the photographer's pocket. Then there is the fruit-packing season. There are hundreds of workers in the large orchards and a small army of berry pickers, all ready to exchange cash for pictures with the wide-awake photographer.

After these comes the harvest time of the year for the camera man, the hop-picking season. At this time there are thousands of people out from the city for a vacation in the country, and out to have a good time. Doctors, lawyers, bankers, clerks, people from all walks of life and of all nationalities, are



THE OLD CHIEF (AT EXTREME RIGHT) AND HIS FAMILY

to be found in the hop yards. Everybody has a smile for every one else and all social distinctions are for the time forgotten. Good humor and good fellowship prevail; friendly games are always in progress. Even washday fails to keep up its bad reputation, for washday in camp, unlike the traditional one, does not mean everybody out of humor, as one can judge by the faces shown in the accompanying picture. Then, after the day's work, none are too tired to pose for the camera man; only, before they do this they must put on their best clothes. Taking a trip through the yard, the photographer will always find the young people ready to pose for a picture. One of the pictures herewith shows two pretty Oregon maids just as they were caught picking hops in the field.

The old idea that the American Indian has no ambition would be quickly exploded if those who held it were to visit the hop yards. They have but little confidence in the camera man, but they will pose long enough for a picture. They are not much on looks; they would not take any prizes at a beauty show, but they can pick hops. The two Indian tots in the picture herewith do not know what to think of the strange looking box, but the chief says it is all right and papa and mamma let them pose. It took some time and trouble to get the consent of the old chief for a picture of himself and family, but the owner of the yard finally persuaded his Royal Highness, together with a select number of his family and tribe, to pose for a picture with his white brothers and sisters. The chief and one of the princes of the blood stand at the right in the picture.



An Improved Reducer

By L. C. Bishop



For years I have used reducers that required that the negative be first thoroughly well washed, and with nearly all of these there has been an element of uncertainty as to whether or not the negative would come through the process free from stain and with the reduction effected evenly. The formula given below is for a reducer that is the most satisfactory that I have ever found for portrait negatives of the average kind that are quite dense and it is one that will appeal to those who have experienced the difficulty described above. To sixteen ounces of water add red prussiate of potash crystals or enough of a saturated solution thereof to make it a canary color, finally adding two teaspoonfuls of common table salt. That and a hypo solution, made by adding one ounce of hypo to another sixteen ounces of water, are all that are required. Place the negative in the weak hypo solution, and then, after remaining therein for a few moments, it should be given a brief rinse and transferred to the red prussiate and salt solution where the excess of density is reduced evenly and without stain. The negative must be watched in this last bath and, when the desired reduction has taken place, it should be held under the tap to stop action. Should the negative be very dense and considerable reduction needed, the operation can be repeated, not neglecting to wash a few moments after each immersion in the red prussiate bath. Rinsing the plate from the hypo bath confines the action to

SOMETHING DIFFERENT IN STEREOSCOPIC SLIDES

that portion of the film below the immediate surface. The hypo in the film gradually decomposes the red prussiate so that a solution gradually becomes exhausted, but it is so easily and cheaply made up that this element does not amount to very much. However, I have used the same two solutions for perhaps a dozen 8x10 plates during a period of three hours. The salt acts somewhat as a preservative and may possibly have some effect in saving the shadows.

There is but one drawback to this reducer, and one that is common to many, namely, its effect upon the film is such that the etching knife does not work well. This necessitates a very sharp knife, if smooth, free work with the knife is desired. Should any reader know of a simple remedy for this difficulty other than that of roughening the film with a little pumice powder, I am quite sure that others besides myself would be interested in learning of it. However, the ordinary photographer makes but little use of the etching knife, and when that is the case, the difficulty is not an important one.



Something Different in Sterescopic Slides

By Albert J. Snow



With Illustrations by the Author

As I advised last month, I find myself looking about for subjects that will introduce a little variation in my collection of stereoscopic slides. The two I am sending herewith, "Study of the Eye" and "Study of the Ear," are pleasing addi-



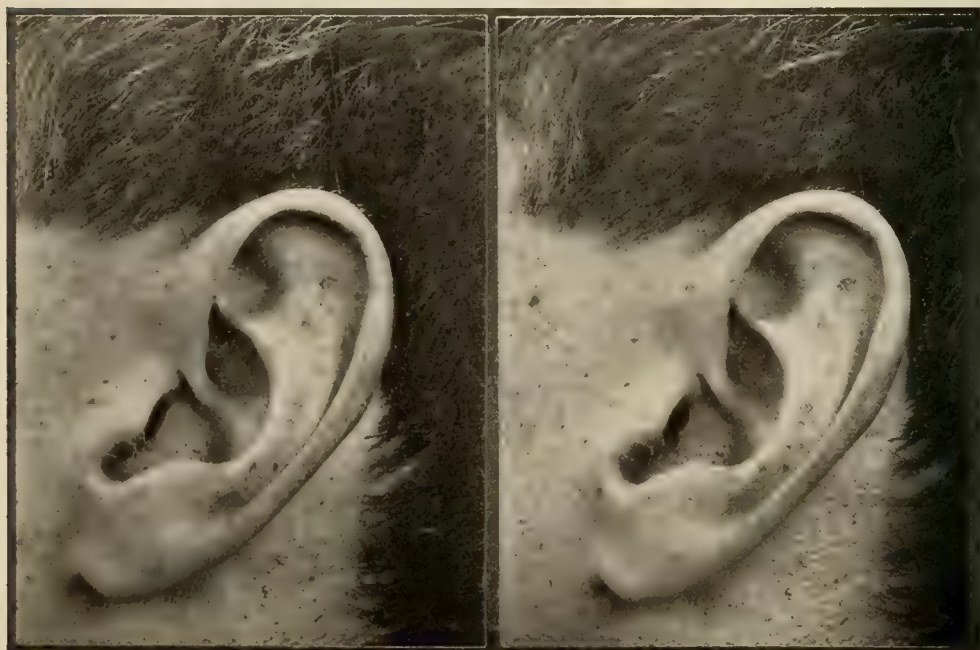
STUDY OF THE EYE

By ALBERT J. SNOW

tions to my collection. They were made with a lens of eight inches focus, the bellows extended, of course, to about double that distance. They were made at four P. M. in September, using stop f-32 and giving an exposure of seven seconds on a standard orthonon plate. As my stereoscopic camera does not have the desired extension to produce these full-size results, an ordinary camera was used and the two negatives made by making two different exposures, moving the camera for the second one so as to produce the equivalent of a one and one-quarter inch separation. In this way some excellent results may be obtained and the finished slides are capable of furnishing one's friends much amusement by giving some such title as "Who's Eye Is This?" and then leaving the visitors to furnish the answer. This is particularly the case when the slide is a picture of the eye or ear of a member of the photographer's own family.

There are many novelties that one can produce in this way to help make his collection of slides more interesting, but I fear that I shall be taking up too great a space were I to mention them all. In addition, I have no doubt that many of the readers would prefer to make their own discoveries along this line.

Effectiveness demands a mind unincumbered with the useless and confusing; a mind, like a battleship, must be stripped for action. The dilettante mind is ineffective because incumbered with so much that is unserviceable. Action is impeded, directness of purpose is lost.—HERBERT EDWARD LAW.



STUDY OF THE EAR

By ALBERT J. SNOW

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

STAINS ON NEGATIVES: A yellowish stain that persists in clinging to a negative despite the efforts of the hypo to clear it away, will often disappear in a mild solution of citric acid and water. A crystal as large as a good-sized pea, dissolved in about three ounces of water, will generally do the trick. This trouble appears most frequently with plates of considerable age.—V. A. Wood, New Jersey.

A MOUNTING HINT: Take a suitable piece of planed pine board, at least one inch thick and about 12x24 inches in size, and cover one side with a piece of white or other light-colored table oilcloth. This will be found most suitable for laying out one's prints as they come from the washing tank preparatory to mounting or drying, and it is particularly handy when it comes to removing the surplus moisture from such prints.—Louis R. Murray, New York.

A FLASHLIGHT HINT: When firing flashlight powder in a pan or open gun, remember that sixty grains is about the maximum quantity that will burn entirely when placed in one heap. If more is piled up, the force of the explosion will blow a considerable amount away unburned. For that reason, if more than sixty grains is necessary, it is advisable to spread it out in the form of a train, even though the flash may not be so perfectly instantaneous.—Louis R. Murray, New York.

A COLD WEATHER HINT: Now that cold weather is here, do not rush out of doors to make an exposure with a camera that has been kept in the ordinary house temperature. The sudden change from the warm interior to the cold outdoors will cause the lens to "sweat" owing to the condensation of moisture on its surface. The exposure will be disappointing under these conditions, but this can be avoided by allowing a little time for the lens to become more nearly the temperature of the atmosphere.—L. R. M., New York.

A NON-ACTINIC WHITE LIGHT FOR THE DARK-ROOM: A solution of three parts of green chloride of nickel and one part of red chloride of cobalt in water is colorless and clear. Light passing through this solution becomes non-actinic. To exclude all ultra-violet rays of light the glass vessel filled with this solution should be coated with collodion containing quinine, slightly acidified with sulphuric acid. Silvered paper exposed for over a week behind such a vessel failed to show any trace of the action of light.—Theo. E. Peiser, California.

LANTERN SLIDES FOR COLORING: Lantern slides, to take color properly, should be fixed in plain hypo-bath. To insure permanent fixation, allow slides to remain in hypo twice the length of time necessary to clear the film. In warm

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weather it becomes necessary to use a little hardener in the hypo, after which a quick wash of about twenty minutes in running water will be sufficient. After this a very careful swabbing with a tuft of cotton, followed by quick drying in front of an electric fan or in a breezy window, should yield a film sufficiently firm to take the colors without difficulty.—V. A. Wood, New Jersey.

BUCKLED SLIDES: I have a number of 5x7 holders fitted with slides made of a composition that is evidently celluloid. These became quite badly buckled so that they were annoying as well as unsafe around the edges. Trying an experiment, I warmed them until they were almost uncomfortable to the hand and then laid them on a flat surface and ironed them over and over, working from the center outward, with an ordinary flatiron, itself slightly warmed. The suggestion may help out some other worker, and as rubber is also amenable to heat, the experiment is worth trying with slides of that material.—C. B. F., Washington.

UNMOUNTING PRINTS: One can quite frequently remove a print from the mount by beginning at one corner and gradually bending back the mount as if trying to peel it from the print. If this is done slowly and carefully, the print can generally be removed without the use of water, which may disturb the spotting if any thereon. A little experimenting will show one that if a mount is bent back and peeled from a print, any inclination to tear will result in the surface of the mount being torn; while, if the print be peeled back from the mount, any inclination to tear will result in the print being torn. The plan suggested above is simply taking advantage of this rule.—L. R. M., New York.

A GROUND-GLASS SUBSTITUTE: The other day, while making an enlarging outfit, I needed a piece of ground glass larger than that kept at the supply house. While wondering what to do, my eye fell on an emery wheel. Taking a large piece of glass, I turned the wheel slowly and let the glass just touch its rough surface. After going over the entire surface of the glass in this way, I rubbed it with an emery stone and the result was a good piece of ground glass. One must, in following this plan, be careful to grind the glass evenly over its entire surface; and, although the grain secured is a little too coarse for a focusing screen, it answers as well in an enlarger as does the kind obtainable at the supply house.—M. R. B., Wisconsin.

KEEPING UNFIXED PLATES: By immersing a developed but unfixed plate in the following solution:

Water	150 parts
Bromide of potassium.....	5 parts
Glacial acetic acid.....	5 parts
Alum	5 parts

afterwards rinsing and drying, the light will not hurt it, and the fixing and washing can be done later. This was studied out in the days of wet plates, when it was not always easy nor convenient to do the fixing and washing when out viewing with a small wet-plate outfit, and it may some time come in convenient with dry-plate work. Where there exists a doubt of the success of some particularly valuable view, this formula might come in useful.—Theo. E. Peiser, California.

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A PHOTOGRAPHIC MONTHLY

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Our Frontispiece This Month

The picture, *Dance Champêtre*, is a reproduction of one of Dr. H. D'Arcy Power's "Dichrome" studies; that is, a print made in two colors through the original silver image having been changed by selective chemical toning into a cold and warm tertiary; namely, with a gray that is almost blue in the high lights and a terra cotta that can be carried to red chalk. It is difficult to realize, without seeing a collection of the doctor's studies, how closely such pictures can be made to resemble work in full colors. They differ entirely in quality from colored photographs inasmuch as the tints are not degraded by black, the silver deposit being completely changed into the new colors. As the distribution of these tints is entirely controlled by the desires of the artist, the process permits of individual expression to a greater extent than that afforded by any other method. Details of the process were given in our October, 1909, issue.

Pictorial Photography at the Exposition

The exhibition of pictorial photography in the photographic section of the Palace of Liberal Arts is one of exceptional merit and one of which the pictorial workers of this country may well be proud. The walls of the handsome little gallery, well located and with two entrances, are well covered yet not crowded. There is, by reason of the uniform excellence of the work and the absence of any abnormality as to size, shape or framing, a unity and harmony that might almost savor of monotony in the eyes of those accustomed to the rather spotted effect of many of our photographic exhibitions. This effect of a harmonious whole, made up of pictures having that quality that bespeaks both a knowledge of art and a command of the medium employed, is much more convincing than could be a more varied effect suggesting the idea that eccentricity in treatment and a disregard of technique might have been the governing factor in at least some cases.

Not all of the leading pictorialists are represented, but the catalogue will show a most creditable list of names. Mr. Stieglitz, in reply to a request that he send pictures, wired as follows: "Anne Brigman, San Francisco. Reply delay unavoidable. The Photo Secession has for twenty years or more taken the stand at expositions all over the world to fight for recognition in the fine arts department; can't possibly make an exception now." Others may have refrained from sending for a like reason, and no doubt a few objected to the small charge made necessary by the original plan of the Exposition providing for a comparatively smaller "Fine Art Palace" for sculpture and painting only rather than a larger "Palace of Arts" to house a more wide classification as was done at St. Louis and elsewhere. However, the selected pictures will place before the visitors an object lesson as to the possibilities of pictorial photogra-

phy, and one that will, no doubt, do as much to secure for photography that recognition to which it is entitled as does the withholding of support because such recognition is not first accorded. Exposition managers are not the final court, their decision does not make photography an art or otherwise, and it would seem that perhaps our best plan would be to make as persistent and dignified use as possible of the opportunities placed before us to show what photography can do and in that way earn, rather than demand, that recognition which we desire.

L. B. Jones in San Francisco

L. B. Jones, advertising manager of the Eastman Kodak Company, one of the best known advertising men in this country, has been in San Francisco for the past few weeks, giving close attention to the installation of the handsome and comprehensive display his firm is making at the Exposition. The booth, the largest in the photographic division and one of the largest and handsomest in the Palace of Liberal Arts, reflects in a high degree the skill and experience of those having the matter in charge. A handsome gallery occupying the entire upper floor and containing, in exhibition form, a collection of photographic work of exceptional merit and interest, forms a distinctive feature. Mr. Jones, as speaker of the day, addressed the Advertising Association of San Francisco at its regular meeting on February seventeenth, where a large attendance and deep interest furnished a flattering testimonial to the high esteem in which he is held by that body, to the majority of whose members he was known only by reputation.

AnSCO Official Here

George W. Topliff, Vice-President of the AnSCO Company, was in this city the early part of February. Mrs. Topliff accompanied him, the two leaving for Honolulu to be back in San Francisco about March fifteenth. The business of the local branch and the handsome booth being erected to house the firm's extensive display in the photographic section of the Liberal Arts Department of the Exposition had his attention while here. This exhibit will, we understand, be in charge of Carl A. Bergmann, a gentleman well known to the fraternity throughout the Pacific Slope and the Coast as a photographer of exceptional skill and a demonstrator having a most pleasant personality. Photographic visitors can be assured of a kindly and courteous welcome at the AnSCO booth at the Exposition, as the best efforts of Mr. Bergmann and the AnSCO Company cannot result otherwise.

Mr. Rose in the City

A. K. Rose, the genial representative of the Hammer Dry Plate Company, is spending a few days in the city and enjoying the hearty welcome extended to him by his host of friends in the trade and profession. Owing to his less frequent visits perhaps, and again perhaps owing to his, by comparison with local talent, more modest demeanor, his title of "Dean of Demonstrators," that he bears further back on the Slope, does not maintain here, but his welcome certainly does. Business is reported excellent and the superior quality of the Hammer products is even more worthy of consideration than ever.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Microphotographs

Those who do not read photographic books or magazines are not usually aware that there is a very great difference between a photomicrograph and a microphotograph; and it is not at all uncommon to find the daily papers referring to photomicrographs, but calling them microphotographs. The distinction, I need hardly remind the readers of *Photography and Focus*, is a wide one. A photomicrograph is a greatly enlarged image of a small object, a photograph of what one sees on looking into a microscope. A microphotograph, on the other hand, is a microscopically small photograph. Sometimes it takes the form of a slide for the microscope; but is more often seen mounted on a little lens and set in the handle of a penholder, paper knife, or something of that kind. On looking through such a little lens one sees the photograph magnified, and marvels at the process which will give so much detail on so tiny a surface.

Microphotographs are not so common as they used to be, but there are still plenty about, and many an amateur photographer must have been puzzled to know how they are made. As a matter of fact, when once one has fixed up some simple arrangement for their production the process is very easy, and there is no reason why anyone who can make a good negative and print in the ordinary course should not try his hand at this little known application of photography.

The gelatine dry plate process as ordinarily worked is of no use for this purpose. It gives an image which is much too coarse in grain. As every enlarger knows, even a magnification of three or four diameters may reveal granularity in the image.

It is possible a modification of the gelatine process might be worked out which would be quite suitable for microphotography. Such a process, for example, as that which is used to get an exceedingly fine grain in an emul-

sion, in order to allow it to be used for the Lippmann process, should give a film which would be suitable for microphotographs. But the production of such an emulsion is a process which calls for skill and for a great many precautions; and there is no need to adopt it, since there is already a method which is perfectly applicable, namely, the wet plate collodion process.

Many of the old microphotographs, the writer believes, were made by the collodio-albumen method, by which, indeed, an image of a particularly fine grain can be produced; but the wet collodion is more easily learned, and answers quite well.

Before describing the process, however, it will be necessary to see what apparatus is required. The lens used may be a one-inch microscope objective, and it would be possible to arrange the microscope itself for the purpose. It is better, however, to dispense with the microscope, making a little camera out of a box some three or four inches square, into which the microscope lens is fitted, pointing into the box. The back of the box has an opening about an inch square, opposite the lens, and the distance of this opening from the lens must be arranged according to the degree of reduction necessary.

It would be very difficult to focus so tiny an image in the way which is usually adopted in photography, sliding the lens or focusing screen backward or forward. What is done, therefore, is to fix across the opening a microscope slide of a suitable kind, and then strongly illuminating this, we hold a piece of ground glass on the other side of the lens and focus on it, as sharply as possible, the image on the microscope slide, by moving the ground glass to or from the lens. When this has been done we know that if we put our subject in the place of the ground glass and our sensitive plate in place of the microscope slide the image of the subject will be sharply focused on the plate.

A drop of a weak solution of potassium bichromate allowed to evaporate slowly on a microscope 3 x 1 inch slip makes a capital subject for focusing. It should be placed with the crystals toward the lens, and may be illuminated by means of a mirror just as a microscope slide is illuminated in the ordinary way. The light will have to be boxed in a little or we shall not see to focus. The crystals of bichromate, or whatever else may be used, must be focused on the ground glass, which will have to be some two or three feet or more away from the lens. It will be well to mask the slide down so that only a little portion, the size we wish to have the microphotograph, is projected, and we must get this portion on the ground glass, the size of the negative which is to be reproduced in miniature.

When the slide has been focused, we substitute for the ground glass the negative, which must be illuminated from behind quite evenly, and in such a way that the light does not get out into the room. A convenient method is to put the negative over an opening in a box and to have a few inches behind it a sheet of white card or paper, while on each side are metal filament lamps so placed as to shine on the card, but not on the negative direct. Another plan is to put the card at an angle of forty-five degrees and to shine on it the light from an enlarging lantern.

When these arrangements are made the slide is removed, and a microscope glass slip with a little spot of sensitive collodion film in the center of it is substituted, and the exposure is made. The plate is then developed, fixed, washed, and dried, and may be examined in the microscope itself. If satisfactory it is provided with a cover glass to protect it, and mounted up.

By working in this way, no dark slide is required, as the work is done in the dark-room itself. If it is not practicable to box in the illuminant in the way described, then some form of dark slide must be constructed to take the microscope slip. As the exact register of this with the slide which was used for focusing is of great importance, it is well to make the dark slide so that it will open right through, and allow the focusing to be done with a microscope slide placed in the dark slide, exactly as the sensitive plate

will be placed in it. The method described, which dispenses with a dark slide, is preferable.

One of the handbooks of wet collodion work must be consulted for the ordinary details of the process, and it is only necessary here to indicate in what way there need be any departure. As extreme rapidity is not important, but a clean bright image is, the collodion may be decidedly colored with advantage, instead of being new and light in tint. Every particle of dust will be magnified up to a huge and conspicuous mass, so that we must take precautions against it. For this reason the glass must be very carefully cleaned on both sides and edges; the solutions should all be filtered and kept in stoppered bottles. A wide mouth stoppered bottle makes a very convenient dipping bath. A drop of collodion the size of a sixpence is all that is needed, and the developer may be applied with a pipette, such as is used for filling a fountain pen.

Such in outline is the method by which these little pictures can be made. It is not a process to be undertaken by the beginner; it calls for familiarity with photographic manipulations and some knowledge of wet plate work, which is not likely to come within his view. But to anyone who is a practiced hand at photography it offers no serious obstacles, and the results are at least interesting, and, to the microscopist, may be made of service. Even the amateur photographer who does not intend to take up the work himself may not regard it altogether as a waste of time to have read how such microscopic photographs can be prepared.—N. F. Miller in *Photography*.

Development at High Temperatures

Mr. Punch's advice to those about to marry applies equally to those who hope to make the best of their negatives at extreme temperatures. Unfortunately, especially when abroad, circumstances occur in which the worker has no choice; and even if one has no need for immediate results few things are more helpful, when touring in hot countries, than to develop a few plates to see how the unaccustomed light affects exposure. Nor is the subject interesting only to those residing or traveling in very hot places, as a slight experience of the popular wooden structure known as a "portable darkroom,"

or of a workroom in the roof of a lightly-built house, during a heat wave will convince that it is not always necessary to go abroad to find tropical conditions. Further, quite apart from such considerations, high temperature development has distinct uses, such as in the treatment of badly under-exposed plates. The latter point is of special importance to press workers who have often little choice as to the conditions under which pictures must be taken.

Any physical chemist knows that it is not practicable—except in the most haphazard way—to control the mean temperature of the darkroom and materials used under ordinary conditions. To realize even the approximate level of temperature on which all modern development methods really depend, any such system must be very complete, and would demand the resources of a well-equipped laboratory. It is best to dismiss any idea in this direction at the outset. In some countries, such as the mountain regions of Portugal and Switzerland, the regular difference between day and night temperature is considerable, even in the hottest season, and advantage can be taken of the fact. In the author's experience, however, these conditions are generally absent in Southern Europe and in many parts of Austria and Germany. In such localities the dark hours are by no means necessarily the coolest of the twenty-four, and it is obviously on these hours that the photographer depends for casual work.

High temperature development implies the treatment of a plate at temperatures varying from eighty to one hundred ten degrees Fahrenheit, though in practice the range most frequently encountered lies between eighty-five and one hundred. It is the object here to show how, in the author's experience, this may be performed by ordinary methods; and, performed without preliminary treatment of the plate itself. This latter point is of importance for trial exposures, as the result should bear reasonable comparison with others developed later under temperate conditions. With suitable preliminary hardening, as will be mentioned later, still higher temperatures can be utilized; but this practically doubles the speed of the plate exposed, and is useless for cases of normal exposure.

The first thing to be noticed about high temperature work is that the ordinary factorial and thermal conditions do not apply. The reasons for this are interesting, but their discussion is hardly suitable here. The second thing is that one is met at the outset by two great tendencies on the part of the plate, either of which would make any result impossible. One of these is physical, being the tendency of the gelatine film to frill to separation from its transparent support. The other, which is chemical, is the liability to fog, even in cases of perfectly correct exposure. These difficulties are met, primarily, by the selection of a suitable plate, for plates vary greatly in susceptibility to both tendencies; and, secondly, by the use of a quick-acting developer, so that the negative can be transferred to a hardening bath in the shortest possible space of time.

Now there is a striking difference between high and normal temperature development. At ordinary ranges, say from forty-five to seventy-five degrees Fahrenheit, an identical negative, that is to say, one giving an identical print, can be produced by almost any known developing agent. In the circumstances under discussion the facts are just the reverse. Some developers, when heated, cause great loss of contrast, or are peculiarly liable to fog, or both. Detailed information as to this has been given by Lumière and Seyewetz, but for our practical purposes it may be noted pyro fails badly as to fog, and hydroquinone still worse in both respects. On the other hand, amidol, or diamidophenol hydrochlorate, and metol are practically free from both tendencies. Curiously enough a mixture of hydroquinone and metol acts well, and their chemically combined form, Metoquinone, is even more efficient, and has the advantage of permitting free use of an alkaline sulphite. The author finds that pyro and metol also act excellently, at any rate between eighty-five and one hundred degrees, and this combination is valuable as of all developers in common use it is probably the most rapid.

The following may be given as typical formulae for suitable developer, from which the worker can select the one most akin to his normal practice, the first two being without alkali, the latter with.

Amidol: To two hundred parts of water

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add one part amidol, six parts anhydrous sodium sulphite, and thirty parts anhydrous sodium sulphate. The bromide required will be found to vary a little for different plates; but trial should be made with about three parts of bromide per thousand of the above mixed solution.

Metoquinone: In the above formula the amidol is replaced by an equal quantity of metoquinone, the sulphate omitted, and the sulphite increased to forty parts.

Both of the above work excellently, and time of normal development varies from about two and one-half to four minutes. The amidol, of course, does not keep.

Hydroquinone-Metol: To one thousand parts of water add one and one-half parts each of metol and hydroquinone, two hundred parts anhydrous sodium sulphite, ten parts anhydrous sodium carbonate, and three parts bromide.

Pyro-Metol: For this the author prefers the Imperial Standard formula, diluted to half strength. The theoretical objection to this formula is the presence of sodium hydroxide, but development is so rapid, often well under one minute, that the danger therefrom is reduced to a minimum. This developer has the further convenience for the tourist that it is accurately supplied in tabloid form by Messrs. Burroughs and Wellcome.

The above selection of formula is by no means exhaustive, but will serve sufficiently as typical examples in introducing the subject. A plain pyro-soda mixture consisting of about one per cent pyro, two and one-half per cent dry carbonate, five per cent dry sulphite with, of course, bromide, has been recommended for this work, but the author does not advocate its use, as it is not fast, and also turns into a creditable imitation of brown ink during development; and the latter trait, if scientifically unobjectionable, is messy.

The following hints will be of use to those unaccustomed to work in extreme heat. Especially avoid working in a confined space. The cupboard darkroom becomes unsupportable in a hot climate, and even dangerous to health. The same applies to those tent arrangements in which the head is wholly enveloped. Remember that the gelatine film is much more sensitive to chance touch or

abrasion than usual, it is best to avoid any transfer of the plate to fixing bath prior to hardening; and if it must be examined during development, use should be made of a transparent dish with well, into which solution flows temporarily on tipping. When development is complete, swill with cool water if possible, the porous evaporation water bottles used in the South are handy for this, and flood with any good alum hardener containing a little citric acid to prevent any continuing action of developer, which at high temperature is by no means negligible. Repeat hardener after fixing. For final hardening of very delicate films use a mixture made by treating a ten per cent solution of chrome alum with ammonia, until a permanent precipitate is visible, and then diluting to double bulk with ten per cent solution of potash alum and boiling.

As previously noted, the tendency to frill and fog varies a good deal with different brands of plates. Very rapid plates are generally accounted the more liable to fog, and, fortunately, one rarely has need for ultra-rapidity in hot countries; but in these days of all-round plate excellence there are doubtless many which fulfill the desired conditions. Tendency to frill can often be checked by the faintest smear of vaseline applied with the finger to the edge of the film, about the same quantity as is commonly applied in laboratories to the ground-glass stopper of a bottle.

When developing under temperate conditions, any of the above-described methods may be used for the treatment of known underexposure, the developing dish being suitably heated. But in extreme cases there is an old and little used method which, in suitable circumstances, is most valuable. In this practice the exposed plate is first hardened by soaking for a few minutes in weak formalin and well washed. Development is then performed with any dilute metol or metoquinone formula, and the temperature may be pushed as high as one hundred twenty degrees Fahrenheit. The principal danger is fog; and it is indispensable to select a brand of plate little liable to it. The net effect of this treatment is to increase very materially the speed of the plate used.—Benedict H. Rolfe, M.A., F.C.S., in *Amateur Photographer*.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Simple Bas-Reliefs

Visitors to my office are always showing me something a little out of the ordinary in their photographic work. The latest was brought in by a reader from the northern part of the State. He had posed his small daughter before some sort of a shrubby background that came out fairly even as to its dark tone, yet showing enough detail and leaf form to indicate clearly what it was. The subject was dressed in a simple white frock and was posed standing. From a print a tracing was made of the outline of the figure, such portions as came nearest the lens being indicated by their own special outline. This tracing, laid down on a flat bed of fairly slow drying plaster of Paris composition, rubbed over on the back, transferred the pencil outline to the latter, faintly perhaps, but sufficient to act as a guide. Following these lines with a hardwood stick having a rounded yet flattened point, depressions in the plaster were made to correspond to the figure, the depth being made to harmonize with the form to some extent, the background being left flat. Then it became only a matter of securing good register between the print and this mold, after the latter became set, in order to place the print face down thereon and by rubbing the print into these depressions secure a pleasing as well as interesting effect of bas relief for the figure. There is, of course, nothing particularly artistic about the work, but it is interesting, care and skill being rewarded by improved results, and the amateur could do worse than experiment along these lines when occupation for a spare evening is wanted. The addition of a little glycerine to the mixture of plaster of Paris and water causes the composition to set more slowly and gives time for the work.

Amateur Portraiture

Our amateur readers are constantly sending in portraits that they have made, with a request that some suggestions be made as to

how the results can be improved. The most common fault is that of too contrasty an effect. One side of the face will be as white as chalk and the other of a sooty blackness that makes detail impossible. Much of this is due entirely to too contrasty lighting, but still, longer exposure and a weaker developer would do much to minimize the trouble. The next time you are experimenting along the line of portraiture and secure a result of this kind, before sending in a print or even before trying to remedy the fault by means of screens and reflectors, try the experiment of doubling the exposure and using a developer that is less inclined to give contrast. Then and then only can the inexperienced worker know exactly how much of the trouble is due to faulty lighting. Lighting that is quite satisfactory can be made to give these soot-and-whitewash effects by the simple expedient of undertiming the plate and developing with a too strong solution. A lighting that will be satisfactory with a very short exposure is quite likely to be entirely too flat for the best results when sufficient exposure is given to secure the gradation necessary to give flesh and drapery their distinctive texture. And while on the subject, another common fault can be mentioned and that is the turning of the head to the light in such a way that the light and shadow sides of the face are too evenly balanced. The results are always more pleasing if there is an unequal division, the shadow part being either double or else one-half the area of the portion in strong light. The study of a few pleasing portraits will show this to be the case.

Doing Some Exploring

Perhaps the experienced photographer can walk about a house or through the surrounding grounds and pick out suitable localities for groups, single figures, or good portrait lightings, but, judging from the results some of them secure when asked to show their skill in strange quarters, even the old hand is somewhat in doubt. A good idea is embodied

in the plan followed by an amateur friend in dealing with his own home and its possibilities. One Sunday when the family was all away on a visit, he took a plaster-cast head, inserted the ends of three sticks in the hollow he found in the base, draped an old curtain and an old tablecloth from the neck of the bust down over the sticks and, using this as a lay figure, carried it from place to place and photographed it with a Brownie belonging to one of the children. The result was that he discovered some supposedly unpromising backgrounds were very pleasing in a photograph, that other locations were suitable only at certain hours of the day, that situations quite pleasing to the eye were entirely unsuited through spotted lighting being unavoidable, and much else that will be a great assistance and of no little saving in wasted material in the future. The next time he gets a chance, he is going to use the same dummy figure in the selected positions and determine definitely the exposure in those requiring some departure from the ordinary on account of more than average shade, which last he found to be characteristic of the best locations.

A Library Catalogue

A recent visitor showed me still another good idea. He keeps all his books on a set of shelves and from time to time, as additions make it advisable, takes a photograph of the collection. When a friend borrows a book, he simply takes one of these prints, draws a line from the title thereof, as shown on the print, to the margin where the name and address of the borrower are written. This prevents his forgetting where the book has been loaned, and, in case it is not returned, he sends a copy of the print to the friend as a gentle reminder. Of late he has been making a special print when it becomes necessary to use such a one, by placing a bit of opaque paper over the image of the back of the book in the negative. The result is a print showing a blank space where the missing book belongs. This the delinquent borrower realizes is an effort to call his attention to the unreturned book in his possession and the volume is at once sent with no hard feelings, but rather a kindly appreciation of the unique reminder.

Self-Portraiture of Children

A caller from a transbay city showed me a series of portraits of his three lovely children

that is well worthy of mention as a hint to other fond parents who are also victims of the camera habit. At practically the cost of moving it over to his lawn for the day, he secured the loan of a large, full-length mirror. A few minutes' work with a saw and hatchet converted some waste bits of lumber into a support that removed all danger of injury from the grass or ground or the tipping over of the frame. The mirror was then set up, in turn, in several desirable positions that afforded good reflected backgrounds and the youngsters, in rotation, were instructed to take the kodak and, after getting the frame to properly enclose their own image and come well without the outline of the finder, press the bulb while watching the image so located. The result of the morning's work was a most interesting series of pictures of children, perfectly unconscious, most naturally posed, and pleasing in every way. We regret very much that the ones shown were only proofs and unsuited to reproduction, as we are sure they would please our readers.

Photographing Animals

One thing that seems hard to understand is why so many workers seem to be in such haste when it comes to the matter of pressing the bulb on a group of animals or fowls. They will spend some time reaching the place where their subjects are located, and yet, once there, not a moment seems allowable for the purpose of awaiting a pleasing arrangement such as any group of animals will naturally assume if patience is displayed. The result is that the principal figure in the group has two heads, one its own and the other that of an animal just behind; or perhaps there is a smaller and secondary head apparently growing from the back of an otherwise normal member of the group. To the eye and even in a picture viewed through a stereoscope, such confusion is not so objectionable, but in a picture they form a discording note that should be avoided. One will do well to get hold of an illustrated catalogue of some firm selling monochrome reproductions of paintings and give some attention to the care painters display in this matter. Many valuable lessons can be learned from these, not only along the line mentioned, but in the way of arrangement conducting to balance and to the important feature of undivided interest.

OUR BOOK SHELVES

"Photograms of the Year"

We are just in receipt of the twentieth consecutive volume of this interesting pictorial photographic annual which, in its new and greatly enlarged form, is a very handsome book. Upwards of a hundred full-page reproductions of the finest examples of pictorial art with the camera appear between its covers. These are presented by the highest form of printing and in all cases do full justice to the originals. The pictures are in most instances well worth framing, and will prove of the greatest interest, illustrating as they do the progress of pictorial photography and the work that is being done with the camera in all parts of the world.

British contributions, of course, predominate, but America, Canada, France, Australia, Japan, Spain, Russia, Scandinavia, Belgium, Holland, Italy and other countries are represented. As regards the literary contributions, the editor, F. J. Mortimer, F. R. P. S., editor of *The Amateur Photographer*, deals with the year's work, and has some comments to make on the future development of pictorial photography. A critical causerie on pictures reproduced is contributed by F. C. Tilney, and a thoughtful article on "Expression in Photography" comes from the pen of Antony Guest. Pictorial photography in Canada, Australia, the United States, Scandinavia and Spain is dealt with in separate articles by well-known writers in their respective countries. The entire volume is thus one of live interest for all concerned in the possibilities and progress of picture-making by the aid of the camera.

Published by Hazell, Watson & Viney, Limited, 52 Long Acre, London, W. C., England. The price of the annual is two shillings sixpence net in stiff paper covers, or three shillings sixpence net in cloth boards. It is obtainable from all bookstalls, news agents and photographic dealers throughout the world, and the local firm of Hirsch & Kaiser can supply copies at one dollar and twenty-five cents for the paper covers and one dollar and

seventy-five cents for the cloth covers, parcel post extra, based on two pounds weight.

"The Lure of the Camera"

In this book Charles M. Olcott, author of "The Country of Sir Walter Scott," "George Eliot; Scenes and People of Her Novels," etc., has given us an enjoyable and readable volume, well printed and superbly illustrated with reproductions of most artistic and unusually interesting photographs. Mr. Olcott is a business man who has made photography a recreation for many years, applying to the art the enthusiasm of the amateur and the skill of a well-trained professional. The result is work that possesses a charm and artistry of style that so well fits his description of his rambles both at home and abroad that the reader, particularly the one who is himself interested in photography, is both interested and instructed. As showing the possibilities of the camera, little more can be asked and we are sure that our readers will be more than pleased with the work, as we ourselves have been. There are forty-eight full-page illustrations, each a photographic study in itself, and the text, particularly those portions dealing with the author's own love for and practice of photography, is most charming. The book is published by Houghton Mifflin Company, 4 Park Street, Boston; price, three dollars net, postage extra; weight, thirty-six ounces.

"The Spell of Tyrol"

Another charming volume of the Spell Series, by William D. McCracken, the author of that other popular volume, "The Spell of the Italian Lakes," has just come to hand from the publishers. This is a new and enlarged edition of "The Fair Land Tyrol," and as such it cannot fail to meet with the hearty reception given the author's other work. The author has brought appreciation and affection to the task, if task it can be called, and the reader has the advantage of seeing, through the author's eyes,

as he would himself see, compelled to love both the land and the people, alike most kindly and hospitable. As a country that the tourist can enjoy, the Tyrol excels and as a land that one can read about it furnishes the writer with a topic that requires moderation of language and tempering of enthusiasm more than it does power of imagination and skill in the writer's art. However, the author has given us only reason to admire both his insight and knowledge as well as his sympathy and appreciation, all of which we are only too glad to ourselves extend. The book is a handsome, well-illustrated volume, obtainable through booksellers everywhere, price two dollars and fifty cents net; carriage paid, twenty cents extra. Published by the Page Company, 53 Beacon Street, Boston.

"Penrose Pictorial Annual"

The new volume, the twentieth, of this handsome process year book will, as heretofore, contain a full and complete annual

retrospect of illustrated printing and allied arts. It will contain a wealth of four-color, three-color and two-color reproductions and over one hundred monochrome supplements, in addition to a number of litho offsets in monochrome and colors; the total number of illustrations numbering nearly five hundred. The literary contents occupy over half that number of pages, containing about seventy-five authoritative articles on a wide range of subjects that appeal to every individual interested in graphic art, and particularly to those interested even indirectly in reproductions by the many processes in use today. It is published by A. W. Penrose & Company, Limited, 109 Farrington Road, London, E. C., England.

It will be sent, express prepaid, for three dollars by the American agents, Tennant & Ward, 103 Park Avenue, New York. The local agents, Hirsch & Kaiser, will have a supply and fill orders while it lasts.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

To Post Card Division Members

About a year ago I assembled a collection of cards, the work of members of this Division, forming therewith an album, which I routed to those who had contributed to its contents. My so doing seemed to have met with the hearty approval of those who received the album, and who wrote me that they had greatly enjoyed it. A number of these members have recently written to ask that another be started. The chief difficulty lies in the fact that it is impossible to arrange matters so that each contributor, after examining the album and himself criticising the work, can enjoy the criticism of the other members without incurring the expense and delay of a second trip of both the album and the letter containing the several criticisms, this last becoming quite bulky by the time the last member has contributed thereto. Consulting our General Secretary, Mr. Clute, he volunteered a good suggestion which will simplify matters and make the circulation of

similar albums more enjoyable and less expensive, if carried out. His plan is to have the album sent first to CAMERA CRAFT office, where at least a number of the most typical and noteworthy cards will be criticised, either by himself or a competent critic, and these criticisms will be published and the cards covered thereby reproduced in the pages of CAMERA CRAFT before the album is started over its route. Doing this, each contributor, as the album reaches him, will have a reliable and an informative criticism of the most typical and noteworthy cards in a recent issue of the magazine, to which he has only to turn. These criticisms will no doubt be of more value than the combined efforts of the contributors themselves, being, as they will, entirely impartial and based upon a knowledge of composition and technique rather than upon the personal preference of different workers for certain subjects.

The frequency with which these albums will be made up and started out depends entirely

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

upon the response made by the members to my appeal for cards for this purpose. As often as a sufficient number of acceptable cards, about seventy-five, are received by your director, I will make up an album and send on to Mr. Clute for criticism and publication thereof, the album starting upon its route to the members contributing thereto immediately after. The postage on an album of this size will not exceed eight cents. The only requirements are that contributors be members of the I. P. A. in good standing. The picture may be either a horizontal or a perpendicular one, and it may cover the whole face of the card or be printed within a white or tinted border, made so by means of masking. Borders made up of fancy shapes or designs are not particularly suited to the purpose, and it is hoped that members will avoid sending such cards for the album. While there is no limit to the number of cards sent at one time and a generous supply insures a better selection, it is thought best to limit each member to three or four cards in any particular album. Cards should be sent at once, as the sooner the required number is at hand the earlier the first album under this new plan will start upon its way. Most sincerely, CHAS. M. SMYTH, Director Post Card Division, 1160 Detroit Street, Denver, Colorado.

The New York Album

The new album director for New York, Charles F. Rice, of Mamaroneck, is desirous of making his State album one of the best, if not the best, of the several like albums being circulated. Mr. Rice has an unbounded enthusiasm, an unlimited capacity for work, and these, with his own ability as photographer and his knack of helping others, should assure him a realization of his desire if the I. P. A. members in New York will only do their small share. Doing all that he possibly can, little if anything can be accomplished unless the members are prompt and generous in the matter of sending him of their best work. The albums must contain pictures by a number of workers, the pictures must have interest or pictorial merit and they should be of good technical quality. With Mr. Rice furnishing the albums and the necessary time and postage required in taking care of their production and starting out, the members should feel grateful enough to contribute of their best. If any member is dissatisfied with

the way the albums are made up or handled, they should write Mr. Rice and talk the matter over. There is no reason why the New York album should not be the best one sent out, and Mr. Rice will do all in his power to make it so.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

George E. Moulthrop, Director Lantern Slide Division, Bristol, Conn.

Edward B. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—A. E. Davies, 2954 Linden Ave., Berkeley.

Idaho—Eugene Clifford, Weippe.

Kansas—H. H. Gill, Hays City.

Missouri—J. F. Peters, Room 210, Union Station, St. Louis.

New York—Louis R. Murray, 21 Clark St., Ogdensburg.

Oregon—F. L. Derby, La Fayette.

Texas—Emmett L. Lovett, Roby.

Wisconsin—F. W. Freitag, 500 Monument Square, Racine.

Mississippi—George W. Askew, Jr., 211 34th Ave., Meridian.

NEW MEMBERS

4009—H. J. Gergen, Escondido, Cal.

3¼x5½, developing papers, single weight, of all kinds of views; for steam and electric locomotives (old, modern and freak locomotives).

4010—L. D. Wooster, Fort Hays Kansas Normal School, Hays, Kan.

3¼x4¼, 5x7, and 8x10, developing paper, of birds, animals, plants, nature in general, geology, and scientific subjects; wish negatives (temporary exchange) and pictures for lantern slides or exchange of lantern slides. Especially desire lantern slides as above. Class 1.

4011—Louis H. Smith, Chichagoff, Alaska.

3¼x5½, developing and printing-out papers, of views and landscapes, hunting and wild game; for the same. Post cards only. Class 1.

4012—Charles E. Brown, Box 144, Garraway, West Virginia, Class 2.

4013—Harold Dell, Box 132, Fort Erie, Ont., Canada.

6½x11 cm., developing and printing-out papers, of snow and landscapes, also marines; for mountain and timber land, scenes, marine and snow scenes. Class 1.

4014—Orvis F. Jordan, 831 Washington St., Class 2, Evanston, Ill.

4015—M. D. Wiysel, P. O. Box 232, Magdalena, N. M.

3¼x5½, various papers, of mountain scenes, buildings, birdseye views of towns, cattle, sheep, relics, etc.; for anything of general interest. Do not care for photographs. Post cards single weight only. Class 1.

CAMERA CRAFT

- 4016—Willis K. Jones, Box 353, Moravia, N. Y.
3½x5½ and 5x8, various papers, of college views and scenes; for aviation, scenic, and art studies. Class 1.
- 4017—L. J. Fidler, Sayre, Pa.
Class 2.
- 4018—C. A. West, 112 North State St., Salt Lake, Utah.
3½x5½, various papers, of interesting events, street scenes, buildings, and mountain scenery; for street scenes, etc. Class 1.
- 4019—John H. Pendleton, 445 North 7th St., Logan, Utah.
Post cards, various papers, of mountain views; for woodland views and wild animals. Post cards only. Class 1.
- 4020—L. Davies, Montezano, Wash.
13x18 cm., various papers, of miscellaneous views; for the same. Class 1.
- 4021—Vernon F. Wright, 831 Mt. Faith Ave., Fergus Falls, Minn.
5x7, 4x5, 3¼x4¼, and 9x12 cm., all kinds of paper, of lakes, dogs, cats, boats, and guns; for anything interesting. Class 1.
- 4022—V. E. Fowler, Box 919, Portsmouth, Ohio.
5x7 and smaller, developing papers, of nude studies; for the same. Class 1.
- 4023—John L. Cooley, Farmington, Minn.
All sizes, developing paper, of everything in the professional line; for the same. Class 1.
- 4024—J. H. Titus, 1139 Broadway, San Diego, Cal.
All sizes, of home portraits; for the same, also views. Class 1.
- 4025—Louis A. Grobe, 727 Smith St., Flint, Mich.
3¼x5½, various papers, of ordinary views, all local around Flint, Mich.; for views. Unmounted prints only. Class 1.
- 4026—Frederick Amos, Front St., Kaslo, B. C., Canada.
Post cards to 8x10, various papers, of mountains, lake and wood scenes in prints and lantern slides; for prints and lantern slides of pictorial landscapes. Class 1.
- 4027—Chas. E. Stafford, M. D., Eggleston, Va.
3¼x5½ to 5x7, developing papers, of local views; for street, marine, and railroad scenes. Class 1.
- 4028—Nic Seil, Jr., R. F. D. No. 19, Adell, Wis.
5x7 and 3¼x5½, various papers, of animals, landscapes, lake scenes, and river views; for animals and scenic views. Class 1.
- 4029—C. A. Springer, R. F. D. No. 1, Holley, Ore.
5x7, 4x5, 3¼x5½, developing paper, of groups, mountain scenery, portraits, and duplicator work; for scenery of mountains and rivers, also duplicator P. S. Post cards only. Class 1.
- 4030—Paul D. Huff, 1219 7th St. S. E., Minneapolis, Minn.
Class 3.
- 4031—Charles O. Erbaugh, 214 Ernest & Cranmer Building, Denver, Colo.
3¼x5½, 4x5, and 5x7, developing papers, of mountain views, landscapes, hunting, camping, and architectural; for landscapes, mountain views, hunting, and fishing scenes. Class 1.
- 4032—William Barrett, Box 60, Albion, Idaho.
3¼x5½, various papers, of game, animals, and mountain scenery; for wild animals and mountain scenery. Class 1.
- 4033—Richard S. Foster, 223 Prospect St., Bridgeport, Conn.
3¼x5½ and 5x7, developing papers, of general views, and some good views of Niagara Falls (3¼x5½); for anything of general interest. Class 1.
- 4034—Evan V. Davis, 622 Main St., El Centro, Cal.
5x7 and stereoscopic, various papers, of views and scenes; for stereoscopic and probably lantern slides later. Class 1.
- 4035—Walter West, 2020 Monroe Ave., Ogden, Utah.
Post cards and 5x7, various papers, of portraits and views; for the same. Class 1.
- 4036—Hubert R. Wall, P. O. Box 171, Sonora, Tuolumne County, Cal.
- All sizes up to and including 5x7, various papers, of local views, mountain scenery, rivers, lakes, Yosemite Valley, home portraits, and views of general interest; for views of Montreal, P. Q.; St. John, N. B.; Quebec, P. Q.; Toronto, Ont.; Niagara Falls, Ont.; Buffalo, N. Y.; Detroit, Mich.; Chicago, Ill.; Los Angeles, Cal.; Pasadena, Cal.; Long Beach, Cal.; Oakland, Cal., and views of San Francisco at time of earthquake and fire. The foregoing preferably in 3¼x5½ size. Also studies in the nude, any size. Class 1.
- 4037X—George Wolff, Jr., 217 Valentine Lane, Yonkers, N. Y.
3¼x5½, developing paper, of general views of landscapes, seascapes, buildings, monuments, boats, and historical places; for Western scenery, birds, animals, and ranch life. Only first-class work given and same expected. Will also exchange bromide enlargements up to 11x14. Class 1.

RENEWALS.

- 672—Henry L. Dillon, R. F. D. No. 3, Darlington, Pa.
4x5 and 5x7, developing papers, of farm scenes, animals, flashlight work, landscapes, and miscellaneous; for street scenes, public buildings, and foreign cities. Prints and post cards. Class 1.
- 1783—William R. Ordway, Box 112, Milton-on-Hudson, N. Y.
Will exchange post card views of various subjects of interest; for the same, also prints. Class 1.
- 2455—Elliott S. Blakely, 86½ Union St., Lynn, Mass.
5x7, various papers, of flower portraits; for the same. Only good work sent out or accepted. Class 1.
- 2671—Arthur Soderstrum, 2944 E. 28th St., Kansas City, Mo.
Class 2.
- 2776X—L. A. Sneary, 2822 Espy Ave., Pittsburg, Pa.
Lantern slides exclusively. Have Pittsburg mills, western Pennsylvania scenery, flower and natural history studies. Send after correspondence.
- 2792—Dr. J. R. Young, Box 515, Chico, Cal.
Class 2.
- 2810—C. L. Fuller, 1101 W. 3d St., Sioux City, Iowa.
5x7 and smaller, developing papers, of landscapes, buildings and street scenes; for anything of interest. Post cards or prints; only good work sent or received. Class 1.
- 2835—Frank M. Remster, 69 Myrtle St., Bridgeport, N. J. Class 2.
- 2885—George Macaulay, 167 Allen St., New Bedford, Mass.
3¼x4¼, developing paper or post cards, of marines and miscellaneous views, also a few speed views; for views of interest especially mountain views. Good work only. Class 1.
- 3271—M. de Leon Imus, Lock Box 91, Chelan, Wash. Class 2.
- 3302—W. D. Leonard, 519 W. Perkins St., Hartford City, Ind.
3¼x4¼ and 4¼x6½, developing paper, of general views; for the same. Post cards only. Class 1.

Removal Notice

The New York Branch of the well-known firm of Burroughs, Wellcome & Company have decided to remove their exhibition rooms, offices and city order department to more up-to-date and commodious premises at 18 to 20 East Forty-first Street. These new premises are very centrally located, being but half a block east of the New York Public Library and convenient to the Grand Central Subway Station.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

H. F. Hoefle, who looks after the professional end of the Eastman line, was in town February fourth.

Rad Coover has purchased the Boussum studio in Stockton, taking charge at once.

One of our San Francisco photographers won a fifty dollar prize in the Ansco competition. Good for C. A. Myers.

H. P. Willis, the man who helps to make the Grallex famous, was in town recently, busy as ever, with his usual success.

The Switchtenberg studio in Pomona is the latest to be added to the long chain of Hartsook studios. It is a good one.

The Exposition will be well under way before this reaches the reader. Do not forget that the writer will be glad to see all his friends in San Francisco this year.

An order was received to photograph a mine near Auburn. The operator dressed as if for a banquet instead of taking along a pair of overalls. He was seen on a Southern Pacific diner on his return with his linen collar turned inside out in an effort to do something to improve his appearance. Poor Doc!

New Cirkut Catalogue

We have just received one of the nicest pieces of printing describing photographic products that it has been our lot to see in a very long time. This is entitled "The Cirkut Method," with a sub-title, "The Cirkut Camera and Its Uses." Besides describing the various models of this excellent camera, the book shows some very fine work done with them and also explains very fully the uses to which a Cirkut Camera can be put. The new No. 5 Cirkut is one that will undoubtedly have a large sale among amateur photographers, as it makes a picture five inches wide of any length up to forty-two inches. Its dimensions are only 12x7x4 and the weight of the complete equipment is only nineteen pounds. It is remarkable that so

effective an instrument can be so small in dimensions and so free from that cumbersome quality that one would imagine should apply. Our readers should not neglect to send for a copy of this booklet at once, as the information given therein will interest any outdoor photographer in the land. Address inquiries, Folmer and Schwing Division, Eastman Kodak Company, Rochester, New York.

Leading Studio Reorganized

A recent issue of *The Dallas Morning News* contains an announcement of the reorganization of one of the oldest and largest photographic studios in the Southwest under the name of Burdsal, Raymer & Voorhees, showing portraits of these gentlemen, Mrs. Leota Moon and T. H. Browning, these last acting as retoucher and chemist, respectively. Mr. Burdsal, a prize-winning photographer of extended experience, will act as business manager. Mr. Raymer, well known to all our readers, will have charge of the operating room, and the others mentioned will also lend their extended knowledge and experience to the making of a success of this organization. This is a combination of photographic skill and talent that should afford the residents of Dallas and vicinity an opportunity of securing the very best and latest photographic work, an opportunity rarely offered to the residents of other than a few of the largest cities.

The new organization has the best wishes of the vast number of friends of those interested and no one can doubt the success that lies before it.

Probus Print Lustre

We have recently had the pleasure of trying this Probus product on some old, soiled prints that were to be copied and were more than pleased with our success, not only in improving the quality of the original print very greatly, but in securing an unexpectedly good copy. This compound gives a fine lustrous finish to prints on developing and

bromide papers, particularly sepia-toned or redeveloped ones. Not only is detail brought out, but the shadows are given a brilliancy and depth that are most pleasing. As it can also be used as a retouching medium and negative varnish, it serves a dual purpose that should make it invaluable to all camera workers. It is manufactured by Wolff & Dolan, San Francisco, and can be ordered through any dealer not having it in stock, as the other Probus product, Probus Preservative Paint, is carried by practically every dealer in the country.

An Intensive Advertising Campaign

In addition to the latest advertising which Burke & James, Incorporated, manufacturers of Rexo, have been doing in the photographic press, they recently inaugurated a ten days' intensive campaign in Chicago and vicinity, using large space in the *Chicago Daily News* with its four hundred thousand circulation. The advertisement carried a free sample coupon, which was redeemed by Rexo dealers in Chicago and its suburbs, the names and addresses of one hundred and sixteen such dealers being given in the advertisement. This method of getting immediate attention for a new photographic product was somewhat in the nature of an experiment, but the firm advises us that the results were most gratifying and that the number of sample packages given out in return for the coupons was so great that they feel confident that a majority of the photographers, both amateur and professional, in the territory covered, must have been made familiar with the good qualities of their Rexo paper. Their advertisement in our pages carries the same offer of a generous sample in exchange for the coupon therewith, and our readers should not neglect to take advantage of this, sending it directly to the manufacturers, Burke & James, Incorporated, 240-246 East Ontario Street, Chicago, Illinois.

An Epoch-Marking Improvement in Eye Lenses

Under the heading of "Clear Vision to Very Margin of Lens," *The Rochester Democrat and Chronicle* gives its readers a column of information concerning the new ophthalmic lens now offered by the Bausch & Lomb Optical Company under the name of the Punktal lens. Quoting from the article:

"Five years ago, when a representative of Zeiss visited Bausch & Lomb, it was sug-

gested to him by members of the firm that there was great need for a spectacle lens that would not blur objects seen through its edges. Desiring to eliminate 'all astigmatism of oblique pencils of light,' Dr. Moritz von Rohr, of the Zeiss scientific staff, set to work and in 1911 he told of his discovery. The new lens has been in the German markets for a year.

"Formerly all lenses were made with a base curve on one side for all focal distances; that is, whether the eye to be fitted was in need of one correction or another, one curve of the lens was always the same. The change in power and focal distance demanded by defective eyes of different persons was made by grinding the opposite side of the lens. The blur of objects seen through the edges of this kind of lens was inevitable.

"The Punktal lens admits of a field of sixty degrees, or practically that enjoyed by the normal eye in its rotation without moving the head. This is obtained by a revolution of the old ways, by grinding both surfaces of the lens after the power of each lens and the correction for astigmatism, or the blur, has been computed separately."

The Punktal lens will be, to the wearer of glasses, much the same advantage and innovation as was the anastigmat lens to the photographer. Such of our readers as are wearers of glasses should investigate the merits of this new lens, as the many high commendations which it has received remove any question of its superior merit, and the name of the firm manufacturing it in this country should satisfy as to its value. Particulars can be obtained from the Bausch & Lomb Optical Company, Rochester, New York, should one's optician not be supplied with information covering it.

No Shortage Expected

Victor Flash Powder is being called for in increasing quantities, and the requirements of the trade are being fully met by its manufacturers, James H. Smith & Sons Company, Chicago, who state that they have materials on hand to meet all normal demands for at least six months and expect additional stock to meet all demands indefinitely. They claim that over seventy-five per cent of all the flash powder used in the United States is Victor, notwithstanding the extravagant claims of would-be competition. Such popularity could

only be established and maintained by superior merit, honest weight, a point which they insist should always be investigated in making comparisons, and fair prices, quality and quantity considered.

The Ica Factory Busy

The International Photo Sales Corporation have been advised by Messrs. Ica of Dresden, Germany, that they have taken the necessary steps to secure permission to export their cameras to this country. There is, therefore, good possibility of the supply being in no way curtailed particularly as the factory now have over eight hundred employees and that all departments, with the exception of the motion picture one, are very busy.

Blow Lamps Effective

While the flashbag and instantaneous lamp are very good for many kinds of flashlight work, it is often impossible to obtain the desired soft effect, to cut down the shadows, sharpen detail, etc., unless one resorts to a blow lamp. With a blow lamp, results can be obtained heretofore thought impossible in flashlight work, and these lamps are made in models to suit everybody's work and their pocketbook as well, in the new line recently adopted by the Prosch Manufacturing Company. Drop them a card to 205 East Nineteenth Street, New York, and receive their latest literature on new flashlight devices together with reduced prices on their older products.

Illinois College of Photography

The College Camera Club gave a very enjoyable reception last month, consisting of a fine musical program, a dance and a "feed." The usual contest and photographic features were omitted to allow for the extra social arrangements.

Edward H. Weston, student of 1908, has again distinguished himself in the photographic field by winning the Grand Prize at the recent Northwestern Photographers' Convention. His picture entered at the National Convention at Atlanta last June was adjudged one of the best twelve, and was purchased by the National Association for their exhibit at the San Francisco Exposition.

"Home Portraiture"

Such of our readers as are at all interested in home portraiture should write the Folmer & Schwing Division, Eastman Kodak Com-

pany, Rochester, New York, for a copy of an exceedingly handsome new booklet bearing the above title, which describes very thoroughly the Folmer & Schwing Home Portrait Outfit No. 2 and which also shows very fine reproductions of a number of charming home portrait studies such as are possible with this outfit. The book not only shows an especially suitable and solidly constructed camera, but it pictures and describes a most portable and rigid stand and portable reflector and a handsome and convenient set of cases for the outfit. All in all, the booklet is one that should be in the hands of every photographer who may have any intention or inclination in the direction of home portrait work.

Lens Stolen

The Baltimore Photographic Club advises that a 6½x8½ Bausch & Lomb Unar Lens, engraved on barrel, "Presented to Photo Club of Baltimore City by Dr. Wilkerson," was stolen from their premises at 105 West Franklin Street, Baltimore, on or about January tenth last. A liberal reward will be given for the recovery of this lens.

Some Interesting Photographs

The current, or March issue of *The Guide to Nature* contains several pages of the most elaborate, beautiful and interesting photographic illustrations of buds ever published. Heretofore, illustrations of this kind have been in the form of small drawings, but these particular ones are excellent examples of photographic skill that should appeal to all our readers who are interested in the possibilities of photography, and they should particularly interest the photographer who is also a lover or student of nature. These reproductions are of large size and occupy several pages of this popular official organ of the Agassiz Association. Copies can be obtained by sending ten cents to the publisher, Edward F. Bigelow, Arcadia, Sound Beach, Connecticut.

Election of Directors

The Buffalo Fine Arts Academy held its annual meeting Tuesday, January twenty-sixth, in the office of the Buffalo Safe Deposit Company, Ellicott Square, when the following named were elected directors for a term of three years each: Raymond K. Albright, Frank B. Baird, George Cary, Willis O. Chapin, William H. Gratwick, Spencer Kellogg, Jr., Ralph Plumb, Robert K. Root, Charles B. Sears.

CAMERA WANTS

Advertisements of the above nature shown below will be inserted under this heading at the rate of fifty cents each insertion, for twenty-five words or less; each additional word, two cents extra, cash with order. Those of positions wanted inserted free. No business advertisements accepted.

RETOUCHING WANTED At home; prompt attention given orders received from city or country; moderate prices; seven years' retouching for Arnold Genthe. Mrs. Anna Josselyn, phone Franklin 7799, 1400 Washington Street, San Francisco, Cal.

10x12 GUNDLACH Rectigraph lens, newly fitted with Iris diaphragm; list \$60.00; will sell for \$25.00. N. C. H., care "Camera Craft," San Francisco, Cal.

ATTENTION PHOTOGRAPHERS A modern flat, especially built for photographer, to rent at 427 Presidio Ave., San Francisco; studio is large and best lighted in city; worth looking at; owner will fix to suit. See agent or phone Fillmore 1837. Jesse Miller, 507 Mission St., San Francisco, Cal.

WANTED TO RENT Or lease up-to-date studio in good live town for six months, with option to buy if satisfactory; must be on the Coast; state all in first letter and how many other studios, if any. Address H. C. Smallfield, P. O. Box 35, Lynden, Wash.

FOR SALE 4A kodak, Tessar lens, Volute shutter, rack and pinion for focussing. Complete outfit cost \$151. Perfect condition, little used, \$85 cash. Dr. Jay Tuttle, Astoria, Ore.

FOR SALE Back numbers of CAMERA CRAFT, unbound, complete 1909 to date, in fine condition. Make offer. C. L. Judd, Ana-cortes, Wash.

RESIDENCE STUDIO Wishing to retire from photographic business, I will sell my elegant residence studio, an ideal California home, located in the finest section of this city of 400,000 inhabitants. Studio equipped with all modern conveniences, has 9 rooms, including large skylight room, also garage. Rent reasonable. Address Aune, 669 W. 23rd St., Chester Place, Los Angeles. Formerly of Portland, Ore.

CIRCUIT Panorama camera No. 8 for sale, as good as new, with 4 ft. printing frame, \$125.00. Ingento No. 37 Multiplying attachment, nearly new, \$10.00. M. Camp, Winifred, Mont.

FOR SALE 4x5 Reflex Dagor lens, accessories, cost \$136.00, for \$90.00. Will take small camera with anastigmat lens as part. H. U. Scholz, 1106 S. Kingsley, Los Angeles, Cal.

KODAK AND PHOTO Business for sale, established 10 years, good business district, San Francisco; good developing and printing business, stationery, etc.; five-year lease, reasonable rent. \$3,000.00, a good buy for cash. This offer only good for a short time. Address Box 70, care "Camera Craft," San Francisco, Cal.

CIRCUIT Camera, latest model, fitted with Goerz Dagor lens, Sector shutter; list \$265.00, will sell for \$175.00. 2473 Mission St., San Francisco, Cal.

WANTED TO BUY 3A Graflex and Premo camera No. 10, without lens or with B. & L. Zeiss Protar series VIIA No. 8 lens. Address O. Kamo, care "Camera Craft," San Francisco, Cal.

FOR SALE Fully equipped studio, modern in every respect; guaranteed to be the best photographic proposition in the Southwest. Commands business from the entire State. Wm. R. Walton, Photographer, Albuquerque, N. M.

FOR SALE 3A Graflex, without lens, sole-leather case for same, both in good condition. Will sell for \$70.00 or trade for enlarging outfit. The Chatelle-Hamilton Drug Co., Norton, Kan.

FOR SALE Bargain 3A Graflex camera with case, Zeiss Tessar lens 1C f-4.5, 5x7 ray filter, Crown tripod, 3 1/2-inch film developing tank, Bausch & Lomb Balopticon model B for enlarging lantern slides, making and projecting (three outfits in one). Everything practically new; cost \$192.00, will sell for \$90.00, or will sell camera or Balopticon alone. Must have money to invest in business. Address S. D. Fenster, 31 W. 10th St., Erie, Pa.

FOR SALE Cheap Cylex lens, Goerz No. 4, Cooke f-4.5, Hall Reflecting camera, portrait camera and 2 backgrounds. Address I. R., care "Camera Craft," San Francisco, Cal.

POSITION WANTED As receptionist or retoucher, also colorist. Prefer Coast and position soon. Address W., care "Camera Craft," San Francisco, Cal.

FOR SALE Photo studio, exclusive of instruments, at invoice price, about \$500.00. Navy yard town with weekly pay roll exceeding \$50,000; population 15,000. Well-established cash business with good prices. For further particulars address E. K. Halver-son, 413 Georgia St., Vallejo, Cal.

POSITION WANTED By young lady of seven years' experience in all-around studio work, except retouching. State salary, etc., in first letter. Address L. V., 125 Clinton St., Wausau, Wis.

FOR SALE Only studio in a good town of 2,000 in southern Idaho. It's a good place and will be sold cheap; reason, am crippled up, etc., and cannot get around to do the work. Address H. D., care "Camera Craft," San Francisco, Cal.

FOR SALE 6 1/2 x 8 1/2 Rodenstock anastigmat, f-6.8, focus 9 1/2 inches, with barrel and Ilex Acme shutter to fit. Above fitted to Gundlach-Manhattan 5x7 Korona Camera No. 5, triple extension. Four plate holders, Crown tripod, sole-leather, plush-lined case. Absolutely like new. Outfit kept back from stock. List price \$126.50; cash price to quick purchaser, \$68.50. References, Bradstreet's or any bank in Augusta. James Frank & Son, Augusta, Ga., former American agents Roden-stock's Anastigmats.

3A GRAFLEX Box and carrying case, in good condition. First check for \$40.00 buys both. McKay Studio, Missoula, Mont.

VOIGTLANDER Collinear 5x7 f-5.4 in B. & L. shutter. First-class condition; yours for \$35.00. McKay Studio, Missoula, Mont.

IMPORTED MOTION Picture camera, printer, projector combined, pocket size, double anastigmat and projection lens, complete outfit, new \$100.00; scarcely used; will take \$40.00. Address Cash, care "Camera Craft," San Francisco, Cal.

WISH TO BUY A studio in town from 3,000 population up. C. W. Koehn, Box 48, Lakefield, Minn.

POSITION WANTED With commercial or studio photographer by young man 19 years old; have worked in studio. Would prefer position near here or in Chicago. Have lived there until the last year. R. J. Hoble, Plymouth, Ind.

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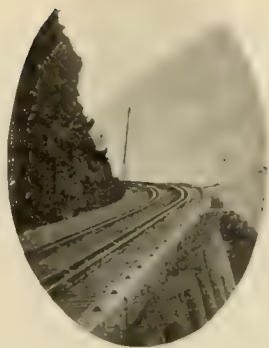
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THE LETTER
By KATE SMITH

CAMERA



CRAFT

A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

VOL. XXII

APRIL, 1915

No. 4

Miss Kate Smith and Her Work

By Geo. D. Jopson



With Reproductions of Some of Miss Smith's Work

Miss Kate Smith, without a doubt, ranks high amongst English pictorial photographers. Her reputation as a serious worker is not confined to her own country, her commendable work having graced the pages of different photographic publications in this country, notably the "American Annual of Photography," to which last she is a regular contributor. As CAMERA CRAFT readers will remember, Miss Smith favored me, by exposing and returning the films I sent to her, as recorded in the article, "The Trans-Atlantic Journey of a Film," that appeared in the January, 1914, issue. In recognition of this kindness, I deem it my duty, having the necessary examples of her excellent work, not only to her, but to the workers of this country to do what I can to introduce her and her work by offering an appreciation thereof.

The broad Atlantic separates us, a barrier of water and distance that has prevented us meeting, yet it is my one desire to some day meet and clasp the hand of this eminent lady pictorialist, and thank her for the inspiration that her photographic creations have been to me as well as to voice the pleasure afforded by her inspiring letters, letters that have reflected that same noble and refined personality found expressed in her pictures. While it was my privilege, a few years ago, to contribute to another photographic magazine an appreciation of her work, the longer acquaintance of added years but increases my admiration, although it may not increase my ability to do my subject full justice.

Miss Smith seems to prefer and to excel in out-door figure studies, and these



MEMBERS OF THE ROYAL BRITISH ARTISTS

writers seem to do, in pointing out the flaws in the work they have under discussion, I could hardly make it the purpose of this article to do so. True, the genius of the artist may be made to grow stronger by being subjected to the buffets of opposing views, just as the muscles are made to grow by exercise; but the work of Miss Smith is so characterized by poetry of thought, excellency of technique and an intrinsic appeal to one's finer feelings that the harboring of a critical attitude seems to be both distasteful and despicable.

The familiar adage, "A person is judged by his associates," prompts me to select for my first illustration a characteristic group of members of the Royal British Artists of London. In passing, I might say that the group is composed of, from left to right, the late Sir Alfred East, W. E. Riley and Phillip Newman, in the order named. While this is not particularly noteworthy on account of its pictorial quality, yet the grouping is of a highly commendable nature and it shows the good company available at Hamper Mills, the home of Miss Smith. Turning to the next example, who is not familiar with the story of Dick Whittington and his cat? This picture goes a long way towards showing how successfully photography may be employed for illustrative purposes. In posing, lighting, and even arrangement, it would be difficult to conceive of anything finer as a representation of this popular character.

While the writer is hardly in sympathy with the wooly, indistinct productions of a certain school of workers, he gladly concedes that where there is an

are apparently the ones most frequently selected by the "Royal" and the "Salon," the two annual London shows, in both of which her work is quite regularly accepted and exhibited. I have before me some forty examples of her work from which to select the required few to embellish the pages on which this article appears and to make a choice is a task of no mean moment, for each and every print possesses merit worthy of favorable comment and hearty praise. However, I will deal with a few of the more serious productions and withhold some of her inspiring, fairy-like subjects that so strongly plead to be included as illustrations for another article that I have in preparation.

Even did I delight, as some

MISS KATE SMITH AND HER WORK

occasion or a reason therefor, fuzziness is quite acceptable. Miss Smith has her reasons and our thanks for giving us "Morning Mist," in which she depicts a fairy avalanche of vapor on the edge of the River Colne, near Hertfordshire, England. The full beauty of this atmospheric study no doubt will be lost in the reproduction, but if the reader will exercise a little imagination, he can readily comprehend the beauty of the original. In this print the distant planes recede in good aerial perspective, carrying the imaginative mind well into the lost beyond.

"The Hundred Best Love Poems" is an excellent composition, well spaced and lighted. Some critics may claim that the light on the



MORNING MIST



THE DAY'S WORK O'ER

right shoulder is wrong through being so strong that it draws the eye from the main theme of the composition. With such I cannot agree, for physical reasons. An unnatural composition is not artistic. A person reading is quite inclined to turn the back towards the source from which the light falls in order that the eyes may be in the shade and the light full upon the book. Naturally, the best lighted portion of the subject will be that nearest the source of light. To remove or subdue this light effect would be to libel natural causes and thereby make a farce of art. The detail is quite well preserved in this highly lighted portion, and I therefore contend that it is both technically and artistically correct. The graceful lines of the drapery are satisfying to



DICK WHITTINGTON AND HIS CAT



THE HUNDRED BEST LOVE POEMS





SUNSHINE EFFECT

the eye, and the book, which is sufficiently subdued and does not compete with the face, is so placed that it gives the composition a pleasing balance.

"The Love Story" is not only an excellent example of harmony in light and shade, but charming in an arrangement of the necessary value and prominence to the figure in the ensemble. The subject is such as is frequently met with as one strolls through a park or some private grounds, a young lady so absorbed in the heart thrills of the printed page that she is quite oblivious to her surroundings. All is so natural one can only imagine that Miss Smith caught this excellent story-telling subject at the

psychological moment. And the same thought is conveyed by "The Love Token," in which the vine-covered sun-dial pedestal gives the required balance to the composition. Another composition that quite fittingly comes within the same classification as the last three is "The Letter." Observe the excellent balance the shrubbery at the left affords and the pleasing harmony throughout.

"Sunshine Effect" is the descriptive title of a different subject handled in a different manner, a manner that is light and airy, a manner more easily understood by the average lay mind, yet worthy of equal consideration with any of the others shown. Both the extreme high lights and the deepest shadows show detail, a quality none too common in subjects of this kind. Owing to the nose being in almost full light and the cheek and chin having a delicate line of light thereon, I would describe this as semi-line lighting. In our last example, "The Day's Work O'er," we have another happy suggestion of the pictorial possibilities of photographing against the light. The subject is a simple one, the

MISS KATE SMITH AND HER WORK

laborer with his faithful team, the day's work over, patiently waiting for other teams to come up that he may join them in returning home. The long shadows give warning that the sun will not long remain above the horizon to light their way homeward where rest and comfort await them after their day of toil in the fields.

With these nine prints I must stop. Much more could have been said, but it is not my desire to ask you, kind reader, to base your own opinions upon the thoughts advanced by another. However, I feel that you will agree with me that, if we analyze Miss Smith's work as to composition, spacing, lighting, values, etc., we find displayed the efforts of a master mind imbued with a thorough understanding of the rules by which great pictorial achievements are accomplished. These pictures are certainly worthy of close study by the reader capable of appreciating their beauty



THE LOVE STORY

and charm so free from any indication of the usual striving after the theatrical in pose treatment.

All that a man achieves and all that he fails to achieve is the direct result of his own thoughts.

In a justly ordered universe, where loss of equipoise would mean total destruction, individual responsibility must be absolute.

A man's weakness and strength, purity and impurity, are his own, and not another man's; they are brought about by himself, and not by another; and they can only be altered by himself, never by another.

His condition is also his own, and not another man's.

His suffering and his happiness are evolved from within.

As he thinks, so he is; as he continues to think, so he remains.—JAMES ALLEN.

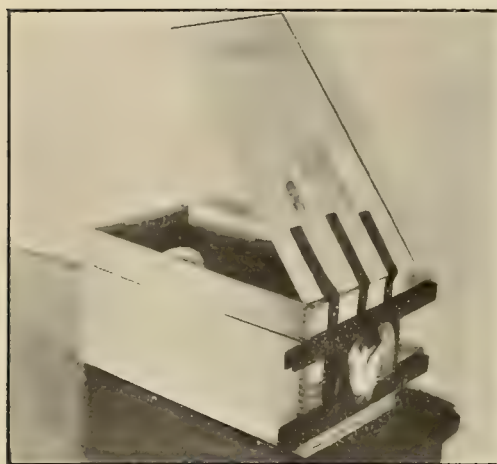
A Lantern Slide Projector for \$3.50

By Frank B. Howe



With Illustrations by the Author

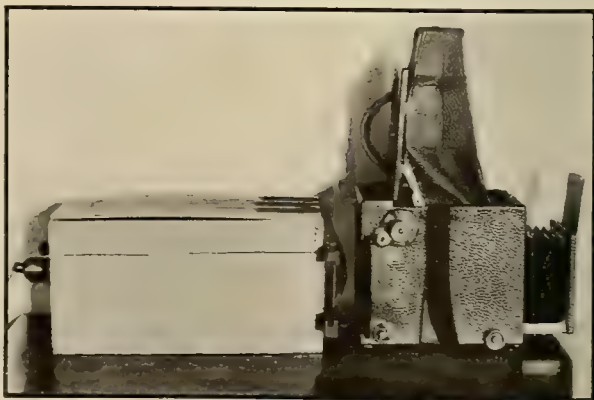
No doubt every one who is really interested in photography has at some time wished for a lantern slide projector whereby he might show his pictorial treasures to many friends at the same time, without the inconvenience of handing



BOX AS DESCRIBED FITTED LAMP, SLIDE CARRIER AND CONDENSER

around loose prints, which soon become soiled, torn and lost. And likewise the same enthusiast has not realized that in his treasured camera he has the main requisite for such a projector, for it is true that any one possessing a camera with a removable back and a bellows extension can, by the expenditure of three dollars and fifty cents and half an hour's time, construct a machine which will project slides up to six feet square, perfectly.

The first thing necessary is to construct a box, approximately seven inches square and fourteen inches long, with the top hinged. Material for this can be found in packing boxes or any scraps of lumber, as the thickness is immaterial. In one end of the box a hole is cut, in the exact center, one and one-quarter inches in diameter, to accommodate an ordinary electric light socket. Extending across the center of the other end, a strip four and three-eighths inches wide is cut away. Across this is fastened a "slide carrier" purchased from any moving picture film exchange or photo supply house, and on the front of this last, in the center, is glued a condenser lens, convex side out, likewise purchasable from the film exchange for one dollar or less. This lens



PROJECTOR READY FOR USE WITH CAMERA IN POSITION

PORCELAIN PICTURES

should be of six and one-half inches focus and four and one-half inches diameter. All that now remains to be done is to purchase a "wire tungsten stereopticon lamp," costing two dollars, from an electric supply house, and insert it in the above-mentioned socket. This lamp is made with the wires running to a point in front, which gives greater brilliancy and permits of a larger picture being thrown on the screen. Next, remove the back from the camera and place it in line with and as close to the condenser lens as possible.

Any white surface may be used for a screen upon which to project the picture, a window shade or piece of white paper serving admirably. Insert a slide in the carrier, seeing that it is upside down and with the cover glass side of the slide toward the light. In order to ascertain more quickly the correct position of the slide, a small bit of gummed paper should be pasted on the lower left-hand corner of it. When the slide is properly placed in the machine, this will come at the upper right-hand corner and facing the operator. Having placed the slide in position, rack the lens back and forth as in enlarging, until the picture on the screen is in good focus. Pictures following may then be shown as rapidly as desired.

With such a projector as described, an unlimited amount of pleasure may be derived, as slides are easy to make, cheap, and more enjoyable, when enlarged upon the screen, than are prints handed around the room.



Porcelain Pictures

By Theo. E. Peiser



Some of the old timers will remember the old-fashioned porcelain pictures we used to make in the old days—and handsomer pictures, or more lasting, never were made since the daguerreotypes, ambrotypes, ferrotypes, or albumen prints had the preference. Since then there have been so many kinds of "types" that it is hard to remember their names. Oh, yes! another type that also, like those of Daguerre and Ambro, took the name of the inventor, comes to my mind, namely, the Albertype; it was, however, an English process, not perhaps

CAMERA CRAFT

known on the American side of the North American continent, but used in British Columbia in the very early eighties. I have tried to get some of the photographers for whom I have worked to let me make some of these pictures, assuring them they could not but be pleasing, but I could get nobody enthused. Perhaps some reader of CAMERA CRAFT may care to try it. The collodion, Fennemore's Method, is made as follows:

A: Negative gun cotton.....	60 grains
Alcohol (absolute)	2 ounces
Ether	3 ounces

Dissolve one hundred and twenty grains of nitrate of silver in three ounces of hot alcohol, and add, by constant stirring, to the above collodion.

B: Chloride of strontium.....	32 grains
Citric acid	24 grains

Reduce to a fine powder and dissolve in four ounces of alcohol, after which add four ounces of ether in which has been dissolved sixty grains of gun cotton. These two collodions are then mixed in equal proportions.

To make the pictures, flow the porcelain plate, or that which now goes by that name, with the collodion in a room that is either very dimly lighted or else well lighted with a yellowish colored light. It is not necessary to be as particular as with developing papers or dry plates; the same light that is used in the making of platins will suffice, yet care should be taken not to fog the plate by letting it stand in too strong a light. Those who have made wet plates will understand what I mean. The plates, like albumen paper, must dry in the room where coated. The printing frame must be so constructed that the plate can be examined while printing without losing its alignment when again put back on the negative for further printing. Suitable printing frames for this work were on the market twenty-five or thirty years ago, but it is hardly likely one could be found today. A serviceable makeshift consists of placing a strip of adhesive tape along one long edge of the negative and porcelain plate so as to form a hinge joining the two. This done, after the porcelain plate is raised for examination of the degree of printing it will drop back into place in exactly the same position and thereby assure a sharp image by registering perfectly as before.

When printed enough, or a shade darker than wanted when finished, remove and tone with a plain gold toning bath; acetate of soda is what was usually used to neutralize with. It gave a pleasing warm tone. Care should be taken not to tone too far, a danger liable if proper care is not exercised. The fixing was usually done with cyanide of potassium, but some preferred hypo on account of the poisonous character of the former, although the cyanide gives clearer and brighter pictures. Then comes the spontaneous drying, followed by tinting. This last was done mostly with the ferrotype colors then on the market, but some colored with water colors and a few with oils. The framing was done in those very beautiful oval, filigree gold affairs, which hung upon the wall, showed up very handsomely. I hope some one of these lovely—it is really too poor a title to say—pictures, handled, they are works of art.

Flashlights of Living Insects

By Samuel Bradford Doten, M. A.

Director and Entomologist of Nevada Agricultural Experiment Station



Illustrations by the Author and George G. Schweis

AUTHOR'S NOTE: *The invention of the "cold"-flame flashlight came about through the making of photographic studies of insect life in the Department of Entomology, University of Nevada. In the course of certain experimental work, it became highly desirable that photographic records be secured of the habits of tiny, parasitic insects. Negatives were made by flashlight at magnifications of from eight to fifteen diameters. These photographs were published in Bulletin 78 (Technical) of the Nevada Agricultural Experiment Station. The present methods are the outgrowth of subsequent experiments which were supported largely by the Hatch and the Adams Federal Funds. It is therefore only just that these funds be given credit for the resultant progress in this difficult but interesting field of scientific photography. In the preparation of this paper, the writer has been under many obligations to the Bausch & Lomb Optical Company, of Rochester, New York, for advice and assistance in the matter of lenses, shutters, and cameras for this somewhat unusual purpose.*

The new "cold"-flame flashlight, invented by the writer, was first described in *CAMERA CRAFT* for October, 1914. This article attracted the attention of several students of insect life, who suggested the publication of further notes on the same subject.

It has always been exceedingly difficult to photograph living insects in action. We have had to be content with photographs of dead specimens mounted in more or less natural positions, or else with drawings.

Two things make it hard to photograph living insects. First, they move rapidly; and then, we need to use small diaphragms in order to get depth of field. Thus we have

before us a photographic problem involving, at the same time, high speed and a small stop opening. Now the speed of a shutter is fast or slow only in comparison with the rate at which the image of the subject moves across the plate. For instance, take a racing automobile

mile a
hose we
-inch im-



Microbracon Juglandis—A tiny, wasp-like parasite of the Mediterranean flour moth. Negative at eight diameters. Normal Victor flash powder. The negative is so sharp that it will stand enlargement up to twenty-four diameters.

CAMERA CRAFT



Pteromalus Puparum — Insect sucking fluid from the chrysalis through a puncture made by the ovipositor. All conditions same as before except stop being f-8. Notice lack of depth of field.

minute automobile.

For the automobile we can use a large diaphragm and high shutter speed, while for the ant we need just as high speed, but a small diaphragm; f-45 instead of f-6.3 or 4.5. Even brilliant sunlight does not permit the photography of magnified opaque objects with high shutter speed and a small diaphragm.

The flash of the "cold"-flame or explosive arc itself is slow in comparison with the rate of movement of ordinary insects. It has a speed of approximately one two-hundredth second; is four or five times as rapid as explosive magnesium flash-powder. Still, a speed at least one hundred times as great would be required to stop motion in a magnified photographic image of a house fly in flight. For example, if the insect flies five feet per second, then at four diameters its image crosses the plate at a rate of twenty feet a second. In one twenty-thousandth of a second the image moves $\frac{4 \times 5 \times 12}{20,000}$ or $\frac{12}{1000}$, a little more than one one-hundredth of an inch. Plainly, then, there is no hope of our being able to photograph by any flashlight method an insect crawling briskly; and flashlights of flying insects are out of the question entirely. We find, then, that the

twelve feet long; a scale of one forty-eighth. It will cross the plate at a rate of $\frac{5280 \times 12}{60 \times 48}$ or twenty-two inches per second. But an ant which is not in a hurry will crawl, say, five or six inches per second. We shall need to magnify the ant by at least four diameters. Then its image will cross the plate at a speed of twenty or thirty inches a second, or fully as fast as the image of the mile-a-



Pteromalus Puparum — A tiny black, ant-like parasitic insect laying eggs in the chrysalis of the cabbage butterfly. Negative at fifteen diameters. Normal Victor flash powder. Hellar lens at f-16.

FLASHLIGHTS OF LIVING INSECTS

method is limited to insect subjects which are in action, but only in slow motion.

To the student of insect life, these feeding and egg-laying habits are of the utmost importance; and it is these two activities which are most readily and most surely depicted by flashlight photography.

An astonishing number of possible subjects will suggest themselves immediately. The student of the moths and butterflies takes great pleasure in rearing them, sometimes from the egg, sometimes from caterpillars captured on their food plants. With the flash-



COCKROACH — Feeding on dead of same species

light, every stage in the growth of a living caterpillar may be recorded with ease and with photographic fidelity. And then the chrysalis may be photographed, the butterfly emerging from the chrysalis and expanding and drying its wings in preparation for flight. Thus the entire life history of a butterfly from the hatching of the egg to the winged imago can be recorded in full, even though only a single specimen of the butterfly be brought to maturity. Or a sawfly may first be induced to lay its eggs in a willow-leaf; then, as these eggs hatch, the larvæ nibbling at the leaf may be photographed, and finally the full-grown larvæ devouring the leaf.

In short, we may fairly assume that the life histories and habits of our common insect-pests may be most vividly depicted by flashlight photography, together with hundreds of other subjects illustrating the relations and conflicts among insects, or showing their characteristic habits and structures.

Shall we be able to make flashlights of living insects out-of-doors in natural surroundings? It may be possible; but there are many things which tend to limit the range of such subjects. The explosive arc or "cold"-flame is out of the question; the fastest explosive magnesium flash powder



COCKROACH CRAWLING — Negative at two diameters. Silver wire flash, approximately 1-200 second. Bausch & Lomb 11b Tessar lens. Front leg on right blurred by motion

butterfly emerging from the chrysalis and expanding and drying its wings in preparation for flight. Thus the entire life history of a butterfly from the hatching of the egg to the winged imago can be recorded in full, even though only a single specimen of the butterfly be brought to maturity. Or a saw-



Cimex Lectularius: COMMON BEDBUG—Feeding upon a finger. Negative at three diameters. Bausch & Lomb Tessar 11b at f-22. Enlargements to a total of from six to twelve diameters, on Velox, are excellent.



Hemileuca, CATERPILLARS OF— Leaving the egg cluster. Negatives at one and at two diameters. Enlargements by three or four more are required to show all the exceedingly fine detail in the negative.

which we have tested gave flashes of approximately one-fiftieth second. Plainly, the insect subjects photographed out-of-doors would have to be in very slow motion. The insect photographer will encounter many difficulties afield. Out-of-doors the air is seldom still; it takes but little motion of the plant on which the insect rests to blur the image or to throw it out of focus, thus making magnification beyond one or two diameters practically out of the question. In addition, there are the old problems of lighting and background.

Still, there are many subjects which cannot be brought indoors. For example, there are plant-lice which drop from the leaves or stems on being disturbed. This makes it almost impossible to bring them to the laboratory in their natural positions. Moths and butterflies, bees and wasps, feeding upon the nectar of flowers, must be photographed out-of-doors if at all. With a flash lamp working close to the flower head, it may be possible to get series of photographs of insect visitors; as they are not in rapid motion while feeding and the speed of the

explosive flash powder is sufficient. Moreover, the successful synchronization of the flash with the shutter may be possible, so that the speed of the shutter may be employed.

Certain mechanical and electrical limitations connected with the "cold"-flame flashlight were pointed out in an interesting article by Arthur Palme in the January issue. It is probable that in general photography outside the laboratory, it will be useful only for portraits and small interiors, where it will require the installation of special wiring. In our laboratory, we had the sixty-cycle, two hundred and twenty volt alternating current brought from the service line on No. 8 copper wire. Then we protected the wiring in the building by installing in the laboratory a single-pole, single-throw knife switch and an eighty-ampere fuse.

Still, it should be remembered in this connection that the "cold"-flame flash lamp itself consists of nothing more than a fuse between binding posts, and a knife switch which can be thrown suddenly and at will. It is self-protecting. In fact, we have made successful flashes of high intensity by using one-half ampere lead fuse, Greer-tested, instead of fuses of silver, copper or magnesium. The fuse blocks which carry the binding posts are made as follows: The base is a rectangular block of asbestos-wood, two and one-half inches long, one and one-quarter inches wide, and one-half inch in thickness. The binding posts are of brass, cylindrical, an inch high, three-eighths of an inch in diameter, and an inch apart. Between the posts a single strand of the fuse wire is clamped. The

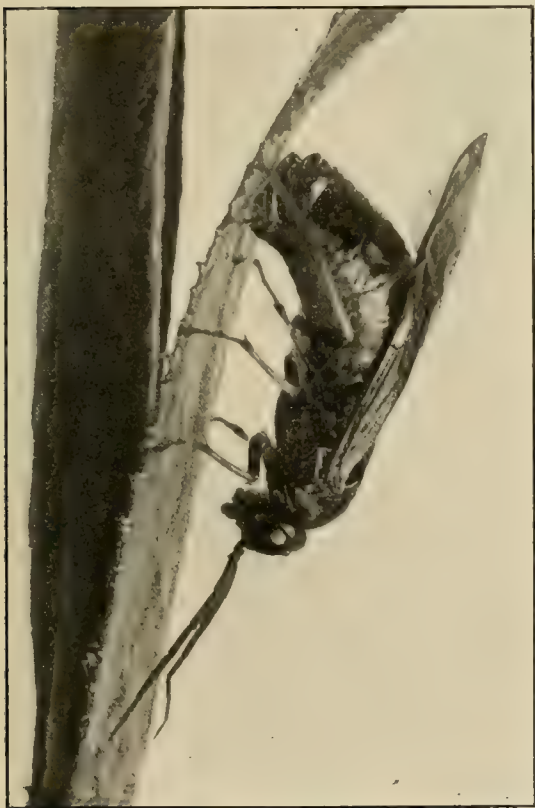
FLASHLIGHTS OF LIVING INSECTS

sole purpose of the fuse is to supply a momentary puff of metallic vapor between the tops of the binding posts. Additional jets of vapor shoot out from the ends of the post and are rendered extremely incandescent by the current.

Tests of the flash lamp with direct current, made with the assistance of Dean J. G. Scrugham, of the School of Engineering, University of Nevada, demonstrated that direct current gives flashes of greater uniformity and intensity with about half the voltage required by alternating current. With the latter, now in use in our laboratory, we find some variation and occasional failures in the flashes obtained from silver and copper wire; and on that account we make most of our negatives with magnesium wire or ribbon, which is readily vaporized by the current. Its light is more actinic and more intense than that from the silver fuse. Because the vapor of burning metallic magnesium is a good conductor of electricity, there are very few failed flashes with the magnesium fuse; for the burning metal maintains the flash past the zero point of a descending current wave into the ascending wave following. We should, of course, prefer direct current, but it is not accessible.

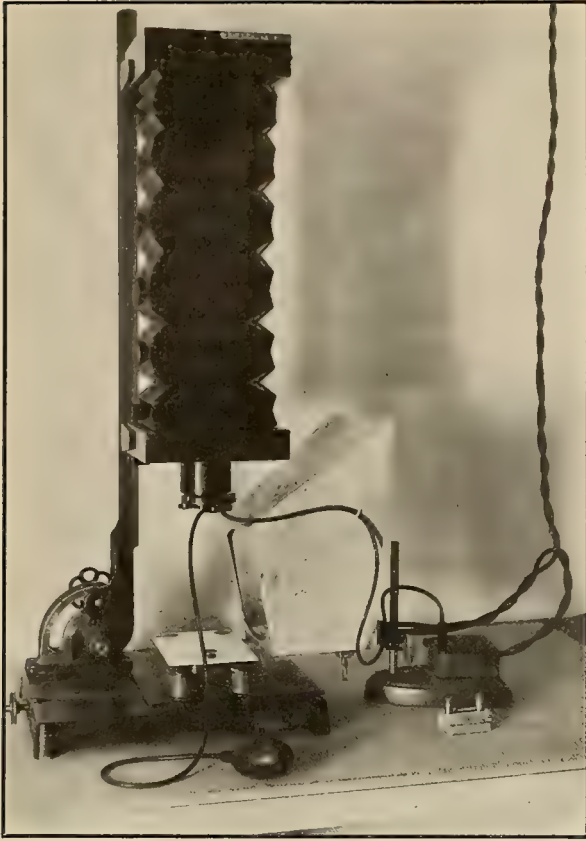
In the photomicrography of small opaque objects, there is need of great depth of field. When seeds are photographed at moderate magnifications, those parts nearest to the lens may be slightly out of focus when the margins are sharply defined. Depth of field demands the use of a small diaphragm. However, there is an optical limit to the use of small stops; for example, the light of the new "cold"-flame is so brilliant that up to four diameters we may secure with it fully timed negatives at $f\text{-}45$. Still, in that case the finest detail in the negative is apt to be a little blurred, though there is of course great relative depth of field.

This matter of depth of focus is of the utmost importance in entomological photography. With a large diaphragm the parts of the insect nearest to the camera may be well defined, while those on the other side of the same insect are out of focus. This is true where large diaphragms are used, even with comparatively small insects at moderate magnifications. For example, in the accompanying



SAW-FLY LAYING EGGS IN A WILLOW LEAF—Negative at three diameters and this in turn enlarged three diameters. "Cold"-flame light. Bausch & Lomb 11b Tessar lens. Greater initial enlargement not desirable for even at three diameters the farther legs are not in good focus.

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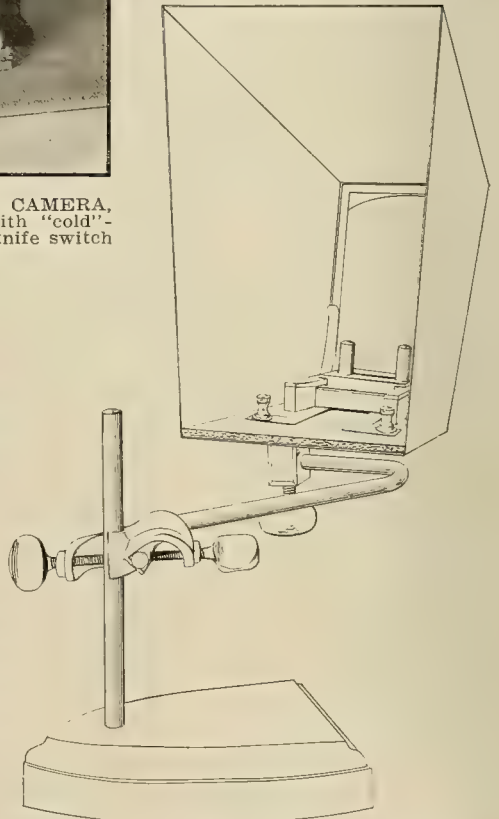


BAUSCH & LOMB PHOTOMICROGRAPHIC CAMERA, TYPE H—As used in the vertical position with "cold"-flame and improvised stage. Notice that the knife switch is mounted upon the iron base of the lamp.

make a negative with moderate magnification and then to make an enlarged negative or to enlarge on bromide paper. In this way one may secure sharp prints on almost any insect subject with all necessary magnification and depth. Our illustration of a sawfly laying eggs in a willow leaf was taken at three diameters. A print was then made from a new negative enlarged by three diameters from the first. The resulting print at nine diameters shows plenty of depth with very little loss of detail. Probably it will be better not to enlarge from the negative by much more than three or four diameters, as beyond this point the grain of the nega-

photograph of *Pteromalus puparum*, taken at f-16, the legs nearer the camera are better defined than those on the other side of the insect. In the other illustration of the same subject, taken at f-8, the legs nearest the camera are clearly outlined, while those on the other side of the insect seem almost completely gone; they are so out of focus that no image is formed. As a limiting condition in insect photography, what could be more annoying?

Still, this difficulty, like many other photographic troubles, may be overcome in part. The best way is to



THE "COLD"-FLAME FLASH LAMP—Viewed from the rear; cord and switch not attached

FLASHLIGHTS OF LIVING INSECTS

tive may begin to show in the print. With us, this method gave the best combination of depth and definition in the final print.

The lamp used for "cold"-flame flashlights is shown in the accompanying drawing and photograph. The flash is produced in a little sheet metal chamber with glass front and asbestos lining. The sides and the top are made to flare sharply back and upward. Fuse-blocks are pushed into the chamber from the rear. A set of these blocks will enable the operator to make a series of exposures of the same subject. Few insects, when feeding or laying eggs, seem much disturbed by the sudden flash. Cockroaches, however, are so excited by the first flash that the opportunity for a second is seldom given.

There is need of close and accurate synchronization of switch and shutter; that is, it is essential that the flash shall follow instantly the opening of the shutter. Only a single movement should be necessary to open the shutter and discharge the flash at just the right moment. Such a synchronization is very readily brought about in the following way. The cylinder of the left-hand shutter-pump of the Bausch & Lomb Automatic Shutter is pierced with a drill at the highest point reached by the lower edge of the piston; and over the hole a short tube with rounded end is soldered. Just as the shutter is released, the air escapes and passes through a rubber tube to the pneumatic release of the knife-switch, the blade of which is thrown sharply and suddenly into contact by means of a steel coil spring. The shutter, set at one-fifth second, then closes automatically. The speed of the shutter has nothing to do with the length of the exposure, which depends wholly upon the duration of the flash.

The need of exact workmanship in flash lamp and switch makes the apparatus unsuitable for amateur construction. The installation of the necessary wiring will require the services of an electrician; and the accurate fitting of the parts of the switch will require the aid of a skilled mechanic. It should be unnecessary to say that the utmost care is needed in the insulation of the switch and in the construction of the fuse blocks.

Until this form of flash lamp has been most carefully tested by other workers in entomological photography, it will be very hard to determine its full value. With only a single model in existence, it would be rash to say that such a lamp will prove widely useful. Still, the pictures obtained are extremely interesting; and within its limits of depth and speed the method depicts insect life and activity most vividly. If subsequent models of the "cold"-flame flashlight work as well as this first one, some manufacturer of scientific apparatus may undertake its production for the use of specialists in biological science.





Outside the Studio

By F. D. Burt



With Illustrations by the Author

I find much of interest in the various articles in *CAMERA CRAFT* on the conducting of a studio, but what of the men who, like myself, have never owned or operated a portrait studio and yet are making their living through the practice of photography? There are thousands of them in the country, but are they too modest to speak of their methods, or is their work of too little importance to be given mention in a magazine of this character? In the hope that by breaking the ice I may induce other similarly occupied members of the fraternity to relate their experience and methods, I will tell how it happened that I am today a photographer.

My first camera was secured about 1897. It was a 4x5 about the size of a small house, equipped with a lens that left dark smudges at the corner of every negative, and a shutter whose chief claim to attention was the noise it made when released. My first efforts naturally tended toward the production of caricatures of the immediate family, a line of work wherein, with the light of broader experience, I now realize that I was a howling success. But when I attempted to include in my list of subjects a circle of protesting friends, I was well on the way to become a social outcast. The lack of appreciation shown so wounded my sensitive personality that I decided to turn my artistic attention entirely to defenseless landscapes; and, in so doing, took the first turn in the road that gradually carried me away from portraiture and eventually into commercial work. So it happened that when the post card craze struck the country I had on hand several hundred 4x5 and 5x7 negatives, having progressed to the larger size. Quite naturally I began to be called upon for post cards, only a few at first, and then gradually in larger and larger quantities, until, outside of my work as a machinist, all the time that I could spare was demanded by my photographic work. I found that with the post cards as an advertisement, new customers were constantly coming to me, and this without any effort on my part to secure their work.

I do not think that the photographic work was responsible, but be that as it may, in 1910, after a period of ill health, I found that I must get some outdoor employment, something less confining than work at the lathe. So I resigned my place and began to dig for a living with an outfit consisting of a 5x7 camera and a good anastigmat lens, a cash capital of about twenty-eight dollars and a nice companionable bunch of debts; doing this in a village of eight thousand population already supporting several photographers. I never received any glad hand of welcome from any of them, either.

I went after the post card work where I already had a good start, selling the cards at three cents to the dealers, who retailed them for five, taking pictures

OUTSIDE THE STUDIO



ONE OF THE POST CARDS OF LOCAL SCENERY

of every spot in town that I thought any one would be likely to buy in the form of a card. Every one that I put out was stamped "Photo by F. D. Burt," and in sorting them up, if I found a card that I was ashamed to have so marked, I chucked it into the waste basket. I honestly believe that the cost of sending hundreds of my pictures over the waste basket route has been one of the best investments in the business. Amateur finishing I went after in the same way; not only for the money in it, but for the advertising it gave me, believing that if one does good work for the amateurs and makes them feel that a personal



INTERESTED IN AN INTERESTING SUBJECT

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interest is being taken in their success, when these amateurs or their friends have a picture job to be done, one stands a good chance of getting it. Besides this, I would willingly go anywhere and photograph anything that I could successfully get on a plate; interiors and exteriors, building operations, factory views, groups, individual pictures of the living and the dead, all came as a matter of course in the day's business.

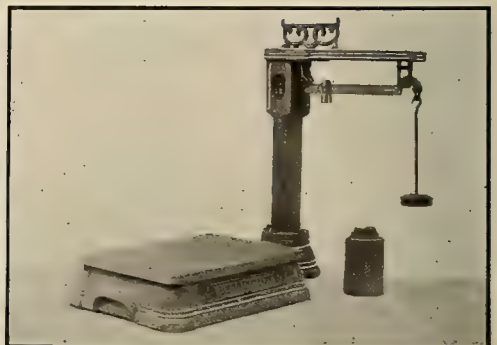
My home was my office and workshop, my wife the office boy, and my friends my business getters, and without these last I would have made a quick failure, for many of them put themselves to decided inconvenience in order to turn all possible business my way. I, in turn, did my best to justify their kindly interest. Many of them have never known my appreciation of their efforts, but if this meets with editorial approval, I am going to mark a few copies and send to those who stood by me and gave me such valuable assistance in my hour of need. One engaged in this line of work should make all the friends possible, because they can be of the greatest help in securing business.

For example, the chief of the fire department called me on the phone at six o'clock one morning to suggest that I get views of the burning of an expensive summer home, which I did, having the cards on sale before ten o'clock. The same day there was a railway collision just outside the village, about noon, and I had to duplicate the performance. In some of these jobs there was absolutely no profit, perhaps even a loss, but it was impossible to tell in advance into which class they would fall, but all were good advertising and helped to fill the time. Frequently when I had no work on hand I would take my camera and hustle down through Main Street, sometimes going so far as to set up and take a picture that I had no use for just to let people see that I was still on the job, quite often securing some little unexpected business thereby.

For two years I continued in this way. At Christmas time I held a sale of calendars and tinted landscapes. In the spring, before the regular business opened up, I went over my post card negatives and made what new ones I thought might fill out or add to the line. Between times I often lay awake half the night trying to think of some plan to separate the public from its coin in exchange for Burt's photos, and I have had some pretty fair ideas filter into my gray matter at one or two o'clock in the morning, too. In the summer everything came at once,—amateur finishing, family reunions, social gatherings, and



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COMMERCIAL WORK-SCALES

OUTSIDE THE STUDIO

excursions. During the pageant week in 1911 I printed between seven and eight thousand post cards and my fingers got so sore from clamping down the springs in the printing frame that I had to wear gloves while working, but the profits justified me in buying a printing machine. These cards were in addition to the regular work of negative making and amateur finishing that had to be done. My wife often worked with me from six o'clock in the morning until eleven or twelve at night, with our little Betty but a month old at the time. But we needed that money and we needed it badly, and it was money that was not going to hang around any after that week waiting for us to pick it up.

I was never endowed with a gift of gab or the ability to "throw a bluff," but find it necessary to know what I am talking about in order to do business. Therefore I found it advisable to study photography and study it closely. I subscribed for the leading photographic magazines as regularly as I paid my



MAIN STREET—PAGEANT WEEK—AUGUST, 1911

taxes, and any Vermonter knows what that last means. I tried to perfect my technique and accumulate an equipment that would enable me to cover all the work that came my way; but, after the living expenses were met, there was not enough left with which to progress as fast as I would wish. Besides, I could see that having the photographic work about the home in addition to the care of Betty was telling on that young lady's mother; and so, when the opportunity was presented to take charge of the photographic department of a large manufacturing establishment in a nearby city, I decided that I could not afford to let it pass.

The experience here has been even more varied than when working for myself, and the opportunity for research and experiment in new fields correspondingly greater. I still have a capital of about twenty-eight dollars and the debts have not greatly diminished, but the training and experience have been

invaluable and the financial gain has at least been greater than we could have hoped for had I remained in the old line of machine work. I should like to be a portrait worker and make a specialty of men, but fate seems to have led me into this other path. Sometimes, when I look over a lot of new negatives made perhaps on a variety of plates, including process, ordinary commercial, double coated, panchromatic, and Hydra,—all of which we keep on hand,—I cannot but feel that the commercial work of today is not exactly what one would call monotonous or uninteresting.



Line Drawings From Photographs

By Louis R. Murray

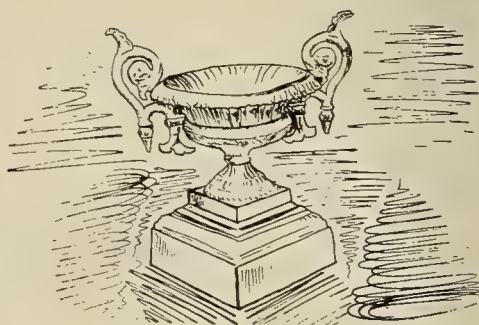
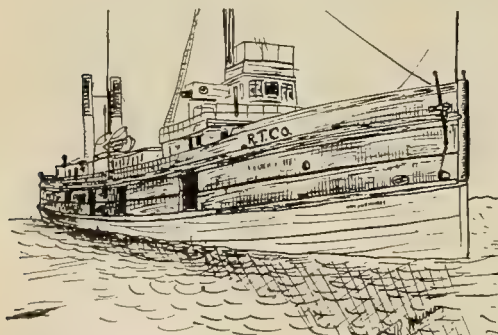


Illustrations by the Author and Others

To cite only one application of the idea, the local paper wishes copy for a line cut of some building that has burned, ship that has sunk, or something of the kind. The usual procedure is for a reporter to hunt around for a print or negative in the hands of some professional or other photographer; and, if one



is found, have a drawing therefrom made in the office of the newspaper. The enterprising photographer may derive some extra profit by giving prompt



LINE DRAWINGS FROM PHOTOGRAPHS

service in the form of a line sketch, ready prepared, when he finds he has a negative of a subject from which a cut might be desired. The two crude line drawings shown herewith, together with their originals, were each done in less than ten minutes after the original prints, necessary in any case, were made. With the skill that could be gained by a little practice, quite creditable sketches could be made, sketches suitable for numberless purposes. Despite the fact that line cuts are not all that halftones can be made, they have the advantage of being more suitable for printing on rough or common news paper; in addition, they permit of parts being left out or added and they stand enlarging or reducing to almost any extent.



The process that the photographer can use is very simple. First make a not too deep blue print, develop and dry perfectly. Then, with both a fine and coarse pen handy, trace the important lines of the subject, using a waterproof India ink such as Higgins', costing twenty-five cents. After all the leading lines are traced, one may do a little shading if desired, but this is not necessary



at this stage. The pen and ink work being completed, allow it to dry for at least an hour. If the print be then immersed in an ounce or two of aqua ammonia, concentrated ammonia, all traces of the blue will disappear and only the pen and ink lines drawn thereon will remain. Wash ten minutes and dry between photo blotters. One may then add necessary lines or do a little more shading to improve the work, taking care to keep the lines well separated if the drawing is to be much reduced in making the cut. While these two examples of my own sketching are naturally crude, owing to my inexperience in drawing with a pen, they are made more so by my effort to use the shortest possible

time, for me, in their production. To show what can be done, I am sending along a drawing made after this method by a photographic friend who has a little more skill in the use of a drawing pen, although he is by no means an experienced artist in that medium.



PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

A TRIMMING HINT: Many amateurs do not possess a print trimmer, and even those who have one may find the following a satisfactory makeshift. Take a discarded safety razor blade and fashion a handle for it out of a piece of wood that can be split at one end to receive it. The holes in the center of the blade will allow of small nails being driven through to hold it in place. Using this improvised tool, with an ordinary straight edge, will be found a very satisfactory method of trimming one's prints.—Louis R. Murray, New York.

UNTONABLE PROOFS: All photographers suffer from the practice indulged in by many of securing a liberal supply of proofs and then turning these over to some other photographer or amateur friend with a request that they be toned. This can be entirely prevented, at least, satisfactory results can be prevented, by the simple expedient of making a few touches or marks with a brush charged with paraffine wax dissolved in benzine or some similar solvent. When dry, it does not show and the parts touched refuse absolutely to tone.—G. H., Indiana.

CLEANING TRAYS, TANKS, ETC.: Often our trays, tanks, and the like, need cleaning, but the proper cleanser or necessary time to use it thoroughly is not available. A somewhat makeshift but yet quite satisfactory remover of most chemical deposits on the various smooth surfaces, is common coarse table salt. This should be applied liberally, slightly moistened and rubbed with a cloth, followed by rinsing. This is especially effective with accumulation forming in developing trays and tanks in which pyro-soda solutions are used.—L. R. M., New York.

DRYING LANTERN SLIDES AND SMALL PLATES: Doing a little lantern-slide work the other evening, I hit upon a plan of drying the finished slides that may be of interest to other workers. Draining the slides out of the washing box there was no drying rack in sight, but a few old film spools were at hand and the slot in their end suggested their availability for the purpose. By standing one of these spools upright and placing the corner of the slide in the little slot made to fit the winding key, the film drains and dries perfectly as the weight of the spool seems to rapidly draw off and absorb any water that may run to that corner.—H. G. W., Illinois.

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No. 4

Cameras at the Exposition

The rules governing the use of cameras inside the grounds of the Panama-Pacific International Exposition are, briefly, that a fee of twenty-five cents be paid upon each camera each time it is taken in, in addition to the regular admission fee, and that such cameras must be 4x5 or 3 $\frac{1}{4}$ x5 $\frac{1}{2}$, or smaller, and must not be used on a tripod. While we do not wish to justify the imposing of this tax, it really is not an excessive one; and, with the growing appreciation of the small or miniature camera and its possibilities, the restrictions as to size and the non-use of a tripod are hardly worth mentioning. One of our local dealers is devoting his window to a most instructive display of 8x10 enlargements from negatives made with one of these vest-pocket cameras, and their quality is such that the one item of convenience would make the use of the smaller camera seem obviously the only advisable plan. When it is understood that with one of these miniature cameras one can secure the same depth of field with the lens wide open and rapid exposures possible, as with a larger camera with the lens stopped down to where instantaneous exposures are out of the question, the little vest-pocket camera seems quite desirable. When one further realizes that 8x10 enlargements having practically all the quality of contact prints can be made from these small negatives, the smaller camera seems doubly desirable, at least for this class of work, involving as it does the taking of scenes combining constantly moving figures and considerable depth of field. In addition, the somewhat orthochromatic and decided non-halation qualities of most roll film make the use of film cameras particularly advisable for this work. Brilliant sunlight, blue skies, and the delicate shades of reds and yellows presented by the buildings, combine to make demands upon an ordinary fast emulsion that would tax the skill of any photographer, as many of the large contact prints offered for sale plainly attest.

Mr. Kilborn on the Coast

Frank Kilborn, president of the well-known Kilborn Photo Paper Company of Cedar Rapids, Iowa, spent several weeks here in California during February and March, the most of the time with his brother and sisters in Sacramento. While here he appointed William J. Grow, of 536 South Broadway, Los Angeles, as agent for Southern California, while Marsh & Company, of this city, will act as distributors for this section. Ill health on the part of Mrs. Kilborn caused his trip to be cut short and prevented his enjoying a visit to our Exposition. Mr. Kilborn reports the sale of Kruxo paper as increasing in a most gratifying way, particularly in his own section and the Chicago territory; the factory, fortunately, enjoying the advantage of an ample supply of raw stock obtained just as the war made the securing of such material somewhat difficult.

Mr. Hotte Here

A. H. Hotte, of the Simplex Photo Products Company, is in this city and may possibly remain some few weeks. His firm has a most interesting exhibit at the Exposition, one of our best known local salesmen, Enno Lion, being in charge. The new Alamo Moving Picture Camera and the firm's several other specialties are proving a greater attraction than was thought possible in competition with the many other fine exhibits in the photographic section. Downtown offices will be opened and an agency established in Los Angeles to handle the business in the southern part of the State. Mr. Hotte is well pleased with the reception accorded his firm's new lines on the Coast and seems not adverse to remaining long enough to give his best attention to the matter of satisfactory distribution in this territory.



The Examination and Licensing of Photographers

By Felix Raymer, Dallas



EDITOR'S NOTE: *In our November last issue, Mr. Blumann was allowed space in which to quite severely criticise a proposed law providing for the examination and licensing of photographers, a law discussed at the last annual convention of the Photographers' Association of America. As the gentleman who brought up the matter at that convention could not be induced to reply to our letters asking for his side of the question, we turned to Mr. Raymer, whom we knew was interesting himself in a similar proposed law to be submitted to the Texas Legislature. His communication follows:*

The Editor having asked me, as a member of the committee appointed by the Professional Photographers' Association of Texas to bring an act providing for the examination and licensing of photographers before the Texas Legislature, to give my views upon the matter for publication, I will endeavor to comply with his request. The text of the proposed act, containing as it does over sixteen hundred words, is rather too long for the space at my disposal; therefore I will content myself with the titles of the nine sections into which it is divided, in their order: Photography Defined, Appointment of Board of Examiners, Organization of Board, Examinations by Board—Requirements for Certificates to Practice, Revocation of Certificates, Recording and Exhibiting Certificates, Fees for Certificates and License—Expense of Board, Practicing Without Certificate—Penalty, Act Does Not Apply—When, calling attention to various portions as I proceed.

I am sure that this act will meet with considerable opposition, but to my mind it is a good thing for all interested in photography, and particularly the professional. In giving

my views, however, I wish it understood at the outset that they are given from a personal viewpoint and are not necessarily the views of any of the other members of the committee, although I believe we are practically unanimous in desiring such action as this proposed act provides.

Section 4 is the first of particular interest. It provides that all photographers who have been engaged in business for the year previous to its passage, by application, receive an exemption certificate. This simply means that no one engaged in the work when this act is passed can be ousted therefrom if he is interested enough in his welfare to make application for his certificate. This is fair to all. It is not our purpose to place a hardship upon any one who already owns a studio or who is engaged in any department of studio work, but simply to protect those who are already in from those who are outside and who are not doing anything for the betterment of the profession. It is to the interest of all who are now engaged in photographic work for a livelihood to further this movement and give to it every effort of which

THE EXAMINATION AND LICENSING OF PHOTOGRAPHERS

they are capable to secure its passage. It is also provided in this same section that an apprentice can easily gain admittance into a studio, and there is no effort made to prevent others of good moral habits and average intelligence from gaining a foothold in the profession. Surely no one can object to such requirements. By them the whole personnel of the profession is improved, and it must be admitted that we have need of improvement in some cases. Many times I have had men say to me: "When I am away from home I never let people know that I am in the photograph business." Why are these men adverse to admitting themselves photographers? It cannot be that they are ashamed of the art side of it, nor the science connected with it. Therefore, I must conclude it is because of the men who are engaged in the business that they are ashamed. Now, therein lies the idea. It is our desire, among other things, to improve our personnel.

Section 5 is along the same line, placing within the power of the examining board the authority to revoke the privilege of any one who conducts himself unworthily. Certainly there can be no objection to this. There is not a reputable photographer in the United States who has not at some time come in contact, directly or indirectly, with some disgrace to the profession who will promise anything on earth to get the money; and, when he has exhausted the credibility of the town, decamp with the goods, leaving the resident photographer, who pays taxes and buys food and clothing there, and who is expected to do his share towards all public improvements, to suffer in some measure for the rascality of a fellow craftsman. We all know that there have been so many ticket sharks, post card scamps, and other tricksters, who have preyed upon the credulous, that the public is inclined to judge the whole profession by what the crook has taught them. In proof of this, I will mention the practice of securing a deposit on the order at the time of the sitting. In the small towns especially, this has been made difficult, for past experience of the customer makes him afraid he is going to be swindled. Yet this same man will go to a railroad ticket office and pay for his trip in advance, or to a theater and pay for a seat before he has seen the performance, or to a tailor and make his deposit or to the lawyer and plank down his retainer's fee, without a murmur. But the

photographer is no doubt a scamp, so far as he knows, and must produce the goods before they are paid for. It is not the law-abiding citizen for whom the laws are made. It is for the men who need governing that laws are enacted. There is nothing in this act that will hurt the reputable photographer; but rather, it will give him a better standing in his community when his townspeople know that he has the State laws back of him and that he has been weighed in the balance and not found wanting.

In Section 7 we see the costs and fees attached to this act. It may be, in fact has been, claimed by some that the expense is uncalled for and unfair to the photographers in the small towns. In the first place, if a man is not doing business enough to pay twenty-five dollars for his own protection, he is not doing business enough to justify him in staying in that business. He had better look for new fields and pastures green. This discloses another great fault of photographers as a class. We are too cheap. We do not do things in a big way. We may talk pretty big at times, but when it comes to the conducting of our business, we are not there. I am speaking now of the profession as a class. Certainly, we have big men who do things in a big way, but they are not draped around on trees and bushes. We need to realize that to become public spirited and to be looked upon as a public benefactor, we must get out and be one of the big men. We must get over squeezing that eagle on a quarter until we break his tail feathers, else we will continue to be considered, in our own town, as cheap.

As to whether this act is constitutional or not, I cannot of course say positively; but the legal profession met the same question, had strong opposition, but the act governing the examination of lawyers went through, and I venture to say that it would now be a difficult matter to find a lawyer who would say it is not a beneficial act. The doctors objected to it, the dentists did the same, the barbers, the plumbers and the pharmacists, all said it would not be constitutional, but it is upheld in all cases, and it has done good for all professions, trades, and callings, where tried. A few years ago we heard doctors calling each other quacks, but now the term is almost obsolete, for every doctor knows that every other doctor had to make good before he could begin practice

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The amateur will object to the passage of this act if he has been selling his pictures and thereby making money. As soon as he sells his pictures, he is no longer an amateur, but the same as a professional, and should bear the professionals' burdens. Every time he sells his pictures, he is diverting so much cash from a legitimate channel, the channel leading to the professional, or the man who is making his living by the sale of his work. That same amateur, in many cases, belongs to some union, and as a member thereof would howl himself blue in the face if a "scab" were placed to work beside him. He wants protection, but it is not right to protect against himself. Another amateur is a lawyer, and he is protected, but thinks the photographer a rank blackleg for wanting to stop him from selling his work, to the detriment of the former. Another is a plumber, another a dentist, another a barber, another a pharmacist, and so through the list, all thinking it eminently proper to have such an act to protect them, yet they decry us men down here in Texas because we are yelling for fair play.

It has been asked: What right have we to request such an act, and what vital reason can there be for such? One right is the right to protect our patrons from scamps and grafters who impose upon the ignorance of the public by foisting on them all sorts of caricatures as photographic portraits. Another right is that of securing fair play for the honest men who are trying to make a decent living in the profession. In many of the States even the merchants are protected by laws that prevent outsiders from coming in and peddling from house to house, thus depriving the resident merchant of his just earnings. It is to prevent agents from collecting valuable old pictures for copying and enlarging and sending them away and in most cases losing, destroying or wilfully keeping them from those who should have known better than to have entrusted them to such scamps. It is to stop outside firms from flooding our towns with "home portrait crews" to work up business and send the money away, leaving the resident photographer to hold the bag and pay expenses. It is all right to argue that the home man should make his work so much better that the outside man will have no chance. It is not always a question of work that counts. The public are gullible and want something

different, whether it is as good or not. They will accept a plausible story and fail to consider the resident photographer.

I believe in having workmen who are educated to the very highest degree in their chosen profession. They can get their instruction in some studio or college. But if in a college, I believe the instruction of the college should be inspected at least once a year by the board, or some one representing the board. The college work should be made practical as well as theoretical, for the student, when leaving college, enters directly into the practice of his profession and should be prepared to meet the actual conditions.

In my opinion, the matter is one for the individual states to handle separately, not one for the National Association to take up except to aid. Such is the case with all acts relating to the other professions and trades. Each State can handle her own affairs much better than the National Association can handle the affairs of many States. Each State knows the conditions of her own craftsmen better than is possible for the national body to know them.

I have no complaint to make of one being an amateur so long as he is an amateur, for all professions have their amateurs. Every time the kiddie has the tummy ache, grandma says give him a dose of paregoric, and there is a two-dollar fee for some doctor knocked sky high by an amateur doctor; but if grandma charged for her advice, she would not be an amateur and the doctors would be on her trail in no time. Every time a fellow says he is going to get gay and do something naughty, some friend says: "Don't do it, old chap; it is against the law." There is a retainer's fee knocked into a cocked hat for some lawyer by an amateur lawyer. But if the amateur lawyer had charged for his advice, what a howl would have gone up in lawyerdom. There are amateurs everywhere. But let them be amateurs. It is not a question of who can do the best work for the least money, the amateur or the professional. It is one of business, and the professional is the man who is in the business.

The cheap man is the one who is going to object to this act, not the high-grade man. It is the cheap customer, the one who wants cheap pictures, that causes us more trouble than the high-priced man. We all know that. The same is true here. The man of little ideas will find fault.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Submarine Photography

The wonderful cinematograph pictures of life at the sea bottom now being exhibited in San Francisco should fire the ambition of some of our local workers to seek fame in a not too crowded field. The following excerpts from *The Amateur Photographer* report of a lecture by Martin Duncan and a resumé in *Photography* of E. C. Perkins' article in the *Photographic Times* may be useful to intending workers. Dealing with ordinary photography, Mr. Duncan says:

"In submarine photography, which was his own special branch of work, he was faced with peculiar difficulties, chief among them being the rapid falling off of the actinic light at any appreciable depth. He built a camera which could be weighted and lowered, the shutter being opened and closed by an electrical device. It was a tedious process, and the results were not inspiring. Occasionally, when the camera was submerged, a starfish would act as a living cap, and effectually prevent any light from reaching the plate. At length he constructed a four-decker camera for the purpose. The base was heavily weighted with lead, above this was the camera proper, above this again a chamber containing a charge of magnesium powder, together with a reflector, and finally a chimney to contain the smoke. Such work was now done by sending down a camera and box containing an enclosed arc.

"For shading off glare from the sky in order to work in rock pools, Mr. Duncan has used an umbrella, or, preferably, a tin funnel in the shape of a huge cone, which is fitted on the front of the camera, and so jointed as to be utilizable at various angles according to the size of the field to be included. The reflex camera was certainly the best form for naturalists. His own choice had fallen upon a reflex made by Newman and Guardia; he had had it in use for seven years, had made several thousands of exposures with it, and all the renovation it had

required was the fixing of a new blind to the focal-plane shutter, the original one having got tacky after an immersion in salt water. The great necessity was a shutter which worked properly at its very lowest speeds. The top speeds did not count for much in the case of the naturalist, seeing that the plate-maker had not yet made a plate capable of giving an image at those top exposures under unfavorable lighting."

"The apparatus used is the invention of Captain C. Williamson, who for some years has been at work on a device to take the place of the ordinary diving suit. It consists of three parts: a floating vessel of any suitable design; a submersible terminal operating chamber in which work or observations can be carried on at the bottom of the water; and a collapsible, flexible tube of metal, connecting a floating vessel and the submersible chamber.

"The main feature of the invention is this tube. It is made of steel in sections of varying lengths. Each section is composed of an upper and lower flange, and these are connected by a set of steel hinges, so arranged as to open and shut along radial lines to the axis of the tube, but at all times to fit against each other so closely as to be watertight. Some of the sections have only one set of hinges, and when collapsed the flanges rest upon each other. In the longer sections there are several sets of hinges joined to each other between the upper and lower flanges. When collapsed, they stand about three feet high, while they are eight feet long when extended. The sections can be fitted to each other readily.

"It is because of the collapsible nature of the sections that it is possible to submerge the tube. Any one who has tried to push a large bucket bottom downwards into the water will realize what a difficult thing it is to do. With the collapsible tube each section just a little more than displaces its own weight in water at the surface when ex-

CAMERA CRAFT

tended. Therefore it will sink. But deeper down the pressure of the water overcomes this greater displacement. Then the tube automatically collapses, section by section, from the bottom upwards, and as each section closes, its weight remains the same, but its volume of displacement grows less. By this means, the continual adding on of sections at the surface forces down the sections below. To the bottom section is fitted the operating chamber, which it remains to describe.

"This chamber is a hollow sphere of steel with an inside diameter of five feet. From its center a cone of steel five feet long and five feet in diameter at the large end projects horizontally. This cone penetrates the sphere and at its small end, where it is eighteen inches in diameter, a steel bulkhead is fitted. In this bulkhead there are two glass ports, three inches in diameter, and placed one above the other with about five inches between them. They are the eyes for the photographer and the camera. The large end of the cone is closed by a piece of plate glass one and one-half inches thick and five feet in diameter.

"In order to protect this glass from the pressure of the water, gauges and pumps were installed in the sphere. One gauge showed the water pressure against the outside of the glass. The other showed the air pressure within the cone. The pump was used to keep these two pressures equal. The steel bulkhead which was fitted at the small end of the cone prevented the compressed air from escaping from the cone into the sphere.

"In the sphere itself, the pressure of the air was the same as that above the water, except for the trifling increase due to the length of the tube. The air came down the tube just as air comes down into the hold of a ship, and the photographer worked under the same conditions he would have experienced were he photographing the inside of a building.

"The Bahama Islands were selected as being richest in varied forms of marine life and variegated coral, and Nassau, the water being of unexcelled clearness thereat, was chosen as the central point about which to work.

"A vessel suitable for the operation of the chamber was built in the shipyard at Nassau, in form this vessel being a barge

about forty feet long by eighteen feet wide. In its bottom an opening was cut large enough to lower the chamber through it, and this opening was built round with heavy timbers to a height of three feet above the water line, making it a well. Chain hoists, capable of lifting eight tons each, were suspended above the well. One of them was made fast to the large end of the cone, and the other was used to lift and lower the tube, being attached to the upper flange of the topmost section by a steel yoke. A collar of timber and steel was built across the well. This collar could be fitted close round the upper flange of the top section when it was desired to disengage the yoke and add another section of tube.

"So arranged, all was ready for work. The Williamson Brothers had charge of the vessel, Carl L. Gregory being the photographer.

"The barge, loaded with the chamber and one hundred feet of tube, was taken in tow by a tug. The first exposure was made in the Marine Gardens at a depth varying from fifteen to twenty-five feet, according to the surface at the bottom. These gardens are in a narrow strait, through which there is always a very strong current running, estimated at about seven knots. It was just the place to give the tube a severe test. By mooring the barge to four anchors across the tide and then slacking the cables on one side and taking those on the other, it was found possible to let it swing with the tide.

"While it was swinging, Mr. Gregory, down in the chamber below, photographed a panorama of sea bottom. The clearness of the water and the perfect illumination afforded by the sunlight coming through it and striking the white coral bottom was remarkable. In the deep recesses of coral caverns it was found that it was not at all unusual to secure perfectly exposed negatives at one seventy-fifth of a second with a lens opening of f-6.3.

"Amongst the subjects which were secured in this way were a deep sea diver at work, a combat between a man and a shark, one between two sharks, and many of fish, submarine landscapes, films illustrating the sponge industry, native boys diving for coins, etc. Color plates were exposed, to be used as a guide for tinting the cinematograph pictures. The success of the experiments was complete."

A PHOTOGRAPHIC DIGEST

How To Make Safe Lights

Ruby glass as a screen for the dark-room lamp has become almost obsolete, except in the cheaper types of lanterns, the reason being that it is now recognized that by the use of certain dyed films it is possible to get a much brighter light that is equally safe, or a much safer light of equal brilliancy. Hence the very extended use of the so-called "safe-lights," which consist of stained gelatine or collodion with protective glasses. Any one who wishes to be able to see comfortably in the dark-room, without the risk of fogging his plates or films, will do well to use one of these "safe-lights" rather than a piece of ruby glass.

Such "safe-lights" can be obtained commercially; and when only a small area is needed, this is the cheapest method. But when we have to glaze an opening over a square foot in size, the cost of the safe light is often much greater than it need be, and it becomes economical to make what is wanted at home. The actual cost, over and above that of the glass, is very insignificant; and it is only cheaper to buy the small sizes because very small quantities of the dyes are not usually supplied. The smallest quantity we can purchase will make a very large area of screen, dozens of square feet, in fact.

There are a number of dyes which can be used for the purpose; but a combination which serves all the requirements of the amateur is obtained by using a film dyed with the well-known methyl-violet in conjunction with one stained yellow with tartrazine. Such a screen is of an intense ruby red, is eminently suitable for all ordinary, that is to say not orthochromatic, plates, and for orthochromatic plates also, except panchromatics, if a little care is used. This last proviso must always be made. After all, whether the plates, of one kind or the other, are sensitive to the light used, it is all a question of degree; and if they are exposed to it for long enough, they are certain to be fogged.

A quarter of an ounce of the dye may be dissolved in half a pint of water. By the use of hot water, the solution is more rapid. If the liquid has any undissolved particles in it, these may be got rid of by filtering it through a tuft of cotton wool in a funnel.

For large screens, where the greatest transparency is not required, a very good method of getting what is wanted is to stain

some sheets of white blotting paper with the dyes, and then when the paper is dry, to make it translucent by waxing it. The paper is merely immersed in the solution for a minute or two, and then the surplus liquid is blotted off. A few sheets of newspaper may be used for this purpose, the blotting paper, which is very tender when wet, being laid upon a dry newspaper afterwards to prevent all risk of tearing it. When dry, it may be waxed by brushing over it a little wax which has been dissolved in turpentine or benzine. One violet and one yellow paper placed together between a couple of sheets of glass should give a perfectly safe light for all ordinary work.

The paper, even when made translucent in this manner, does not let very much light pass through it, and for smaller sizes it will be found better to use glass coated with gelatine. If the photographer knows any one who works a fairly large size and can secure a few old negatives or spoiled plates, he will find his work is very much simplified. All he has to do, if the plates have not been developed, is to fix them thoroughly in clean hypo, wash and dry them. If they are old negatives, they must be left to soak in a solution of copper sulphate one-fourth ounce, potassium bromide one-fourth ounce, water one-half pint. They may be given half an hour or so in this, and then after a rinse may be placed in hypo until perfectly clear and for as long again, and then be washed and dried. Either process gives us as a result a glass plate evenly coated with a film of gelatine.

If old plates or negatives are not obtainable, a little cooking gelatine may be soaked in cold water until quite soft and then liquefied with heat. The glass must be carefully leveled on the table with little wedges, and is then lifted off, made thoroughly warm in front of the fire, put back, tested for level once more, and then a pool of the liquid gelatine is poured into the middle of it and guided over by means of a rod or strip of glass. When the plate has cooled and the gelatine has once more set into a jelly form, the plate may be stood up to dry, and another put in hand.

In whatever way they have been prepared, the plates can then be dyed by placing them, dry, for a few minutes in the dye solution. They are then transferred to clean water for half a minute, rocking them the while, and

are put up dry once more. If the washing in water is omitted, the dyed film will not look so evenly stained. There need be no fear of washing out too much of the stain. An overstained plate can be lightened by prolonged washing in water.

The glasses may be bound together in pairs, a yellow and a violet one, using the gummed lantern-slide binding strips for the purpose. If preferred, a sheet of tracing, tissue, or papier minéral may be bound up between them to give a pleasantly diffused light.

The comfort of dark-room work depends greatly on the quantity of light available. The combination just described gives a very safe light and one which is not unpleasant to the eyes. It is best to have as large safe lights as possible, and plenty of artificial light behind them, so as to illuminate the dark-room well. Then, if plates or films are not exposed to the direct rays of the light any more than is absolutely necessary, one can get negatives quite free from light fog, and yet work in a room light enough to see to read in any part of it. Daylight should not be used for dark-room illumination at any time. It is too fluctuating in character, and the safe light being always exposed to it, gradually alters in color, and may become unsafe, the change taking place very gradually and imperceptibly.—Ernest W. Berry, in *Photography*.

NOTE: The dyes named can be obtained of Merck & Company, New York, or of Bausch & Lomb Company, San Francisco.—H. D'A. P.

Sunrise and Sunset Effects

Unquestionably the charm of sunrise and sunset effects is due to the wide range of beautiful colors—sometimes indescribably gorgeous and at other times most delicate and subdued. A correctly exposed and properly developed screen-plate transparency of such an effect is a delightful possession; every color worker aspires to add a few transparencies of such studies to his collection. The difficulties of securing such effects are considerable. The light, although visually brilliant, is more or less non-actinic, and an exposure that is ample for the sky itself is far from sufficient for the rest of the subject. The discrepancy is not so great in the case of a seascape as in the case, say, of a wooded landscape, or where there are dark fore-

ground objects. Hence nearly all the most successful results are those showing the sun setting over water—sea, river or marsh. In conversation with my friend, Ellis Kelsey, of Eastbourne, who is recognized as one of our most skilled sky-workers, I learned his method of procedure, and since he is not opposed to the publication of his methods, I embody them in this article, in the hope that they may prove of service to other color workers. A day and time should be chosen when clouds are traveling between the horizon and the camera and when the sun is a few degrees above the horizon—these conditions are to obviate as far as possible blur from movement of the clouds and to secure a good working light. The moment of exposure should be when the best cloud formation coincides with the sun being hidden behind clouds, otherwise a flare spot would result. An actinometer is of little use at sunset on account of the loss of time in a rapidly diminishing light. The duration of exposure must be calculated by allowing for the sun's altitude. For preference choose a point of view presenting a level horizon and with water in the foreground—this evens up the exposure for sky and foreground—a strong foreground introduces, in addition to prolonged exposure, on account of having to use a small lens aperture, say, f-8 in place of f-4, another disadvantage—it deprives the foreground of that subdued luminosity which plays a prominent part in the charm of such effects. The only way of securing this foreground luminosity is to shield the top part of the lens with a card covered with black velvet while exposing for the foreground, such card being moved slightly up and down to produce a vignetted effect. An open foreground enables the full aperture of the lens to be used. The exposure may be from four to eight seconds for the sky, and from five to twenty times the sky exposure for the foreground—the length of time depends entirely on the character of the foreground. As in other classes of color work, under-exposure produces strong color contrasts in the sky and a dense bluish-black foreground. The fullest exposure should be given. A developer capable of producing an abundance of middle tones is necessary. Rodinal of a strength of one in twenty to thirty is quite satisfactory.—Arthur E. Morton, F. R. P. S., in *British Journal of Photography*.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Those "Brilliant" Finders

One of the old timers dropped in the other day, and, of course, he carried some prints in his pocket that had to be shown; showing each other prints from their most recent negatives was a regular thing in his time, more so than it is today. But these prints represented rather flat-looking scenes, the kind that one would hardly expect the sparkle-loving worker of a few years ago to pick out. And here is where my visitor had a complaint to make. He had been led into doing these dull-appearing subjects by the sparkle of the image in his new "brilliant" finder. The finder is a good thing, the brightness of the image it presents is kind to the eyes and the patience of the user, but one must not be deceived by it and judge of its image as he would of that presented by a finder of the type in vogue only a few years ago, or even those on the general run of low-priced cameras of today. Even the excellent direct-vision finder does not present such a brilliant image, although its merits are great enough to make that shortcoming negligible, if shortcoming it can be called. Evidently my caller did value very highly this brilliant quality and only had fault to find with his own lack of experience therewith.

Double and Triple Extension

An Indiana correspondent writes to ask concerning the meaning of the terms double extension and triple extension, as used in describing cameras listed in a catalogue. These terms do not have any definite meaning; that is, double extension may mean an extension of a certain number of inches on, say, the 5x7 camera of one maker and an inch or two more or less on a camera of the same size made by another firm. The idea that is intended to be conveyed is that the camera has sufficient extension to permit one to use only the back combination of a suitable lens, such single combination having about twice the focus of the complete

lens; or, to permit one to photograph a small object full size with a lens suitable to the camera, this photographing full size requiring that the lens be racked out to just twice its normal focus for an object at the required distance. Triple extension might mean that the camera had what was equal to one-third more extension than the double extension, but it seems to mean more usually that the generous extension is divided into three sections to give more compactness to certain forms of cameras. In addition, the triple-extension form often permits of the use of a lens of shorter focal length than does the regular form, as the extension, being in three sections, does not extend out so far and consequently does not come into the picture if the lens be a wide-angle one and the camera has no other provision for getting the bed out of the way.

Flabby Bellows

We had occasion to use an old 8x10 camera the other day, one that we borrowed from an obliging friend who explained that we could keep it as long as we wished, as he rarely found any need for its services. Taking it out to use, we found that the bellows sagged down so badly that a portion of the plate was cut off. To overcome this difficulty, we made a practice of rolling up the end of the focusing cloth and sticking it between the bellows and the bed, but this was only a makeshift. The next time we took it out, we fastened two small rings to the bellows, one on each side, well up to the front, with strips of tire tape. These, with rubber bands and corresponding tacks in the side of the camera back, drew together the surplus folds and the sagging caused no difficulty. The trouble was that we would forget these "hold-backs" were in place, rack the camera out, and either pull the rings loose or do some other damage. The other evening I tried a plan I had read somewhere, namely, giving the extended bellows a good coating of shellac. After the

coating had been applied to the outside, I mixed some lampblack with a portion of the varnish, diluted it with alcohol, and gave the inside a coating also. The negatives seem to be better since this treatment, possibly because the varnish stopped up some of the holes there must have been in the corners and folds and possibly because the inside had been made a good dead black and did not reflect any of the generous surplus of light the anastigmat throws inside.

Border Masking Enlargements

We saw some small enlargements the other day with some very pleasing borders suggestive of those secured by double printing in contact work. Asking how it was done, we found the process quite simple. The bromide paper is pinned to the board and the image centered. Then a set of suitable sized masks are hung over two pins driven at the right point above the image to engage round holes punched in the extreme upper edges of these masks. The light is screened or the lens stopped down until a fairly long exposure is required. Starting the exposure and allowing a few seconds, one mask was removed, a little more exposure and another came away, the last being allowed to remain throughout for the white outer portion. It is evident that by using a little ingenuity in the matter of different degrees of opacity of the masks and different time in position, a wide variety of results can be secured. Where the mask does not permit of being itself the bearer of the holes on which it is hung, hangers made out of transparent slips of thin celluloid can be attached and these will not print their image during exposure.

Those Special Plates

I have often thought I would like to get some of these special plates the manufacturers offer, and try them on plain, simple landscapes. For example, would it not be quite interesting to take one of those slow process plates and see what kind of a negative it would make on an outdoor scene? For all one knows, he might get something akin to the sparkling effects that delighted the eye of the skillful wet-plate worker of some years ago. Then there is the extra fast plate that we use for fast shutter work. Suppose one tried this plate on a landscape, using a small stop and a very deep ray filter in order to slow down the performance, would he not get something different

from a negative on the ordinary plate? An ordinary ray filter should permit of the exposure being lengthened about fifteen or twenty times, and using a small stop would also help. How about trying a plate in the holder with the glass side to the front, of course racking the lens back a trifle after focusing in order to compensate for the different position of the emulsion? How about flowing the glass side with a yellow varnish to act as a ray filter? How about a sheet of bromide paper with the ends folded over a piece of card and used in the holder instead of a plate? How about using a ray filter with the bromide paper? How about suspending a piece of netting in front of the lens and taking the picture through it, stopping down enough to have it slightly in evidence? How about using a long slit instead of the ordinary round opening as a stop? One can be easily made out of a piece of black card. In other words, instead of experimenting with toning baths, different developers, and the like, just as every other camera user is doing who is of an experimental turn of mind, suppose we all make our experiments along the line of exposing the plate with as many variations as we can devise, at least for a while.

Hard or Soft Gelatine

A Pennsylvania correspondent wishes to know what is to be understood by "hard" and "soft" gelatine. These terms are applied to gelatine according to the firmness of the jelly formed with a given proportion of water. Soft gelatine, when soaked therein, will absorb about five times its weight of water, while the hard kind will absorb nearly twice as much. Consequently, a sample of hard gelatine will be much more firm after having absorbed, say, three times its own weight of water than will be a similar amount of the soft kind after absorbing a like proportion.

Making Up Formulas

In answer to a correspondent in Illinois, we would say that while it is not always necessary to mix up a formula in the order in which the ingredients are given, it is best to do so in order to avoid undesirable reactions. When the formula specified, "water to make up to" some given amount, the proper procedure is to dissolve the chemicals in somewhat less than this amount and afterwards add enough more water to make the total bulk the quantity called for.

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2½x4¼ up to 5x7 and post cards, developing papers, - of mostly Washington scenery, marine and landscape; for typical local scenes; foreign preferred. Class 1.

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1895X—Arthur L. Burgess, 227 N. 20th St., Columbus, Ohio.

Post cards of scenery, local views, vacation scenes, lake views, cloud pictures, etc.; for the same. Desire to exchange only good work, prefer post cards. Class 1.

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Desires to exchange first class lantern slides, unvarnished and unmounted, of historical places and natural scenery; nothing grotesque or personal sent or desired. Send list for my list.

2743—Carrie L. Robbins, 101 School St., New Bedford, Mass.

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Post cards and 5x7, of landscapes and wild life, etc.; for the same. Class 1.

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3554—L. N. Searles, Sioux Falls, S. D.

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- 3721—W. T. Wright, 594 Carroll Ave., St. Paul, Minn.
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- 3805—Dr. C. L. Yerxa, 1204 W. 4th St., Williamsport, Pa.
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- 3811—W. H. W. Benedict, Box 174, Dover, N. H.
Class 2.
- 3814—J. H. Leitch, Box 572, Hoquiam, Wash.
 $4\frac{1}{4} \times 6\frac{1}{2}$, developing paper, of general views; for the same. Class 1.
- 3820—W. S. Cotton, 6329 67th St., S. E., Portland, Ore.
Unmounted stereos. Class 1.
- 3830—Dr. Addison O'Neill, Box 525, Daytona, Fla.
Post cards preferred of child studies, also Florida scenes; for nude or draped child or adult studies, or scenery other than buildings. Class 1.
- 3840—Bessie Brown, Camas Valley, Ore.
Class 2.
- 3848—William Charles, P. O. Box 33, Basom, N. Y.
 $2\frac{1}{4} \times 3\frac{1}{4}$ to 5x7, and post cards, of developing papers, of views, portraits, and flashlights in the mines; for athletic, swimming or camping views. Class 1.
- 3852—J. W. Jeffers, Frankfort, Ky.
Vest Pocket, $3\frac{1}{4} \times 5\frac{1}{2}$, 4x5, and 5x7, developing paper, of genre, landscape, historical places in New York, Lookout Mountain, Cuba, also local and a few nudes; for foreign and anything that is good; only good work accepted; post cards and prints with white borders. Class 1.
- 3940X—A. N. Ward, Shelton, Wash.
 $3\frac{1}{4} \times 5\frac{1}{2}$, post cards, various papers, of descriptive views of Western Washington; for general subjects. Class 1.

CHANGES OF ADDRESS.

- 276—I. N. Morrill, 2509 Pierce St., N. E., Minneapolis, Minn.
(Was Danbury, Wis.)
- 2025X—Rev. V. A. Wood, 88 Overpeck Ave., Ridgefield Park, N. J.
(Was Ridgefield, N. J.)
- 2404—A. E. Fyall, Suite 15, Royal Mansions, Vancouver, B. C., Canada.
(Was 40 Hastings St.)
- 2942—R. C. Smith, 726 S. Montana St., Butte, Mont.
(Was Box 209, Butte, Mont.)
- 3100—F. W. Philpot, 1075 Gladys Ave., Long Beach, Cal.
(Was Route 1, Box 509.)
- 3738—William F. Prevett, 1816 West Madison St., Chicago, Ill.
(Was 303 S. Loomis St.)
- 3742—S. H. Nichols, Uniontown, Kan.
(Was Hayward, Cal.)
- 3751—Harry J. Fromm, 656 Adams Ave., Elizabeth, N. J.
(Was 450 Livingston St.)
- 3812—Robert Rhone, 1664 Dayton Ave., St. Paul, Minn.
(Was 1253 Selby Ave.)
- 3862—Olaf Larson, Hixton, Wis.
(Was Valparaiso, Ind.)
- 3897—L. L. Loftis, Ewell, Carbon Co., Utah.
(Was Kenilworth, Utah.)
- 3909—R. W. Franklin, Druid, Sask., Canada.
(Was Lac La Hache, B. C., Canada.)
- 3957—W. E. Lewis, 82 East 7th St., Portland, Ore.
(Was Gervais, Ore.)
- 3981—R. G. Dasse, Fleak, N. Dak.
(Was Pretty Rock, N. Dak.)
- 3983—Akijero Yamada, 2127 Nakao Fukiai, Kobe, Japan.
(Name printed wrongly as Akijero Tamada.)
- 3990—S. T. Powell, Opelika, Ala.
(Was Tuskegee Institute, Ala.)
- 3991—R. W. Rupp, 516 So. 15th St., Harrisburg, Pa.
(Was 1919 Brookwood St.)
- 4000—Victor Hodge, General Delivery, East Bakersfield, Cal.
(Was 819 Monterey St.)

WITHDRAWAL.

- 3967—Julia Morrison, Box 624, Ranier, Ore.
Traveling.



OUR BOOK SHELVES

"Old Panama"

"Old Panama and Castilla del Oro," comes to us as a handsome volume of between five and six hundred pages, antique paper and an excellent example of the bookbinder's art. There are some forty full-page illustrations, an excellent map, a glossary and an excellent and comprehensive index such as the reader finds so useful in a work of this kind. The author, Dr. C. L. G. Anderson, of the Medical Reserve Corps, as Physician of the Isthmian Canal Commission, was afforded exceptional opportunities, not only in gathering historical material but in bringing to his aid much that renders his work of a more vital

and intimate character than is the average book of this kind. The reader will find much to charm in the style and nothing lacking in the way of a thorough exposition of the subject. In historical facts, particularly those connected with the early period of this country's existence, the book is most complete and instructive. Published by the Page Company, 53 Beacon Street, Boston. Price, five dollars net; parcel post weight, four pounds.

"Indian Days of the Long Ago"

This is a charming adventure book for boys and girls, while at the same time having an absorbing interest for older readers. Its author, Edward S. Curtis, whose photo-

CLUB NEWS AND NOTES

graphs of Indian life have an international reputation, has had twenty-five years' acquaintance with Indian tribes, among whom he has lived for months at a time. This has given him the intimate knowledge of Indian life, upon which he has based this story of an Indian lad's boyhood. Kukusim is of the Salish, a Rocky Mountain tribe, and grows from boyhood to adolescence in the days when the first rumors of the coming of the white man were reaching the western tribes. The story of his experiences begins with fishing and rabbit-hunting expeditions with his play fellows, goes through the great council which hears the tales of the wan-

derers from the east and the west, the expedition of the whole tribe to the plains for buffalo, the exciting days of the buffalo hunt, the journey back across the mountains to the home camp in the Montana valley, and ends with the boy's vigil on the mountain of fasting, which marks the end of his childhood. The illustrations, which number two hundred, are either reproductions of Mr. Curtis' own photographs or drawings made from the Curtis photographs by F. N. Wilson. The volume is notably well printed and bound. Published by World Book Company, Yonkers-on-Hudson, New York. Price, postpaid and boxed, one dollar and twenty cents.



CLUB NEWS AND NOTES

The Toronto Salon

The Twelfth Salon, the twenty-fourth annual exhibition of the Toronto Camera Club, will be held April twenty-sixth to May first, inclusive, in the gallery of the Club at 2 Gould Street, Toronto, Canada. The salons held by this Club have always ranked very high, both in the artistic quality of the work shown and the number of well-known exhibitors contributing thereto, and such of our readers as are doing pictorial work should not miss the opportunity of being represented in an exhibition of this kind. A gold medal will be awarded for the best picture, and silver and bronze medals in each of the six classes. Pictures must be mounted but not framed, and should be sent by mail to reach the Club headquarters, 2 Gould Street, Toronto, well in advance of the opening. While entry forms are not absolutely necessary, they can be obtained by addressing the Secretary, George Washington, at the address given above.

A New Camera Club

The Cream City Camera Club has been recently organized in Milwaukee, mainly through the efforts of L. F. Kuhli, photographer, of that city. Though still in its infancy, the club has one hundred and fifty active members and excellent prospects of a large increase in membership with the com-

ing of spring and the resulting increased interest in photography. The club has quarters at 305-306 Stumpf & Langhoff Building, 721 Third Street, with considerable apparatus, most of which has been kindly donated by the various photographic supply houses. The usual activities of an enterprising club will be entered into and further reports can be expected.

Yonkers Camera Club

You are invited to submit prints for the Second Annual Exhibition of the Yonkers Camera Club, May seventeenth to twenty-second, inclusive. All pictures must be mounted, but not framed. A silver medal will be awarded to the best print in the exhibition, and the picture winning this award is to become the property of the Club. There will be two bronze medals awarded in each of the following classes: A, Portraits; B, Figure Composition; C, Landscape; D, Marine; and E, Still Life and Flowers. All exhibits must be sent by mail, postpaid, addressed to the Secretary of the Yonkers Camera Club, Hollywood Inn, Yonkers, New York, and must be in the hands of the Secretary of the Club not later than Saturday, May eighth, 1915. For any additional information, address the Secretary of the Yonkers Camera Club, William Beck, 2 Guion Street, Yonkers, New York.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

The Alamo Motion Picture Camera

The possibilities for work of the most absorbing interest and greatest permanent value along motion picture lines are well known and fully appreciated by every photographic enthusiast, and we need but touch on them here. The most important question camera workers want answered is, "How can I take up this line of work with the minimum of cost for apparatus and materials?"

After a thorough review of existing equipment for motion photography and eliminating the expensive and cumbersome professional apparatus, the answer is, the Alamo Motion Picture Camera, a camera at once small, light, compact, minimum film capacity, and at a price which places it within the reach of every one, thirty-five dollars.

The camera is about the size of a 4A Kodak and weighs four and one-half pounds. It takes fifty feet of film at a loading and is furnished with two light-tight metal film-magazines. Standard, perforated motion-picture film is used and is universally obtainable at market prices,—about three and one-half cents per foot at present.

No commercial photographer need refuse orders for motion films now that the Alamo Camera is available, and his profits on a single job would pay for the camera many times over in many instances.

Possibilities here for the home portraiture man that we need only hint at, as he is a "live wire" to begin with.

The Alamo Camera is furnished with a rapid aplanat lens working at f-6, with a focal length of two inches, and at full aperture will render sharply all objects at distances of eight feet or more from the camera.

Owing to the light weight of the camera and the liability of its being moved or jarred while the crank is being turned, a fairly substantial tripod is required. This the manufacturers are prepared to supply, or a tripod such as would be used with an 8x10 view camera may be used.

For experienced workers or those to whom the added simplicity of a fixed-focus lens would not appeal, the camera may be had with any of the standard anastigmat lenses designed for motion picture cameras, which are supplied in focusing mounts, such as the Zeiss Tessar, f-3.5, of two-inch focus. Such lenses, of course, add superior facilities for interior work and for outdoor work under poor light.

The use of a camera of this kind would in many cases mean also the use of a suitable projector, especially in the hands of the amateur photographer who wishes to follow up his work to the final triumph of projection upon the screen.

The manufacturers of the Alamo Camera have provided for this in their Alamo Projector designed for home, school, or commercial use. A staunch, practical machine, embodying the most approved forms of film-moving mechanism and with simplifications in details which make its use a success in the most inexperienced hands.

Send for pamphlet "Alamo C," illustrating and describing these latest additions to the field of motion picture apparatus, which will be gladly sent upon application to the manufacturers, the Simplex Photo Products Company, Morris Park, Long Island, New York.

Instantaneous Flashlight Pictures

The new Imp Flashlight Gun, advertised on another page of this issue, should interest all our readers and most particularly those already interested in flashlight work, as we know so many of them to be. This device is thoroughly practical, as examples of work done with it attest; and, being the product of a well-known manufacturing concern, good workmanship and reliability are assured. In setting off the flash and operating the shutter absolutely simultaneously, the photographer has at his command the highest shutter speeds available, thus securing sharp, well-timed negatives of the fastest moving objects in darkness or a dim

NOTES AND COMMENT.

light. The advantage of this method of making flashlight pictures is quite apparent. Home portraits, groups, babies, domestic animals, and kindred subjects often present difficulties that can only be partially overcome by working in a very dim light while awaiting the proper moment of making the flash, this latter plan resulting in a stare or a startled look due to the sudden transition from darkness to intense light. With the Imp Flashlight Gun one can not only work in a strong light that permits of accurate focusing and avoidance of this stare, but there is also no danger of an unexpected quick motion resulting in blurring of the image. Write at once for copy of interesting booklet showing some remarkable pictures, addressing the Imperial Brass Manufacturing Company, 1215 West Harrison Street, Chicago, Illinois.

"Photographic Enlargements"

We have just received from the manufacturer of the Parallax reflectors an instructive and informative booklet bearing the above title, and one that we would advise all our readers to secure. While, of course, it includes instruction for enlarging directly with the Parallax Condenser, it covers the use of an ordinary light as well as all the other details of making enlargements of every kind, as can be appreciated by a few of the sub-headings, such as: Paper Copy Method, Transparency Method, Direct Enlargement, Lenses for Enlarging, Artificial Light and Condensers, Paper for Enlarging, Developers, Exposure, Home-Made Light Box and Parts, Time-Table, Enlarging Dodges, Focal Distance, and the like. Copies of this excellent booklet can be obtained by mentioning CAMERA CRAFT and addressing Robert D. Gray, Manufacturing Optician, Ridgewood, New Jersey.

The Kinograph Camera

Such of our readers as are interested in a practical moving picture camera at a reasonable price should investigate the merits of the Kinograph Motion-Picture Camera offered by the International Photo Sales Corporation, 235 Fifth Avenue, New York City. With a quite serviceable lens the camera costs only fifty dollars, and fitted with a high-speed Zeiss, Goerz or Cooke lens of f-3.2 speed, the price is accordingly higher. The size of the camera is $5\frac{1}{4} \times 9\frac{3}{4} \times 10$ inches and the weight slightly under eight pounds.

Taking the one item of the making of moving picture films of one's own family around the home, the average amateur should appreciate that being enabled to do so is well worth the small expenditure involved in the purchase of such an outfit. If the worker will just stop to think of the pleasure such a film will afford in years to come, both to himself and others, he would appreciate the advantage of making a few such films for himself. Aside from this, the growing field of moving picture work is one that every photographer should prepare himself for, and he can hardly do so in a better way than by investing in one of these modest-priced outfits. Full particulars can be obtained by addressing the firm named above and the reader can be assured that this particular camera is an entirely satisfactory and practical piece of apparatus despite its most reasonable price.

"The Camera Book"

One of the most interesting and pleasing catalogues to reach us is the one bearing the above title just to hand from Burke & James, Incorporated, 240-246 East Ontario Street, Chicago. Copies of this book can be obtained by our readers upon request, and we would advise that one be sent for at once, as any camera user, especially the amateur, is sure to be interested therein. In addition to the fine illustrations and descriptive matter covering the handsome Ingento line of cameras, there is much that will interest concerning the use of a camera, together with some fine reproductions of charming pictures made with cameras such as are described.

Flashlight Portrait Equipment

The new Studio and Home Portrait Flashbag, just put on the market by the Prosch Manufacturing Company, is perhaps the lowest priced apparatus ever produced. The outfit weighs scarcely six pounds, folds very compactly, can be set up or taken down in a jiffy; and, best of all, uses either the Prosch envelope cartridge with powder weighed out and safely enclosed in fireproofed covers, or loose powder, as one may prefer. It is possible to operate as many as eight bags, with the original bag, the photographer no longer having to depend on the regular house current to make a large flash. Our readers should drop the firm a card and receive the latest literature on their many new products,

and reduced prices on old standard articles. Address Prosch Manufacturing Company, 205 East Nineteenth Street, New York.

Information About Shutters

The Ilex Optical Company, 563 Ilex Circle, Rochester, New York, get out a nice little catalogue which contains several pages of information concerning the suitability of certain shutter speeds to different kinds of lenses and different subjects, doing this to emphasize the fact that the too common fault of under-exposure can be avoided to a great extent by using a shutter correctly marked for the intermediate speeds and then giving no faster exposures than the subject requires. This last is not easy to do with a shutter lacking in accuracy and therefore the user very frequently tries to avoid risk by setting the shutter for a much higher speed than is actually required. Copies of this neat little booklet will gladly be sent upon request to the address given above and our readers should avail themselves of the opportunity of adding a few more to their stock of ideas concerning shutters.

A Liberal Offer

The attention of our readers is called to the new advertisement of The Photo Products Company on another page, offering three dozen of their Instanto in 4x6 size or in the form of postals, and of course any smaller size would be sent if it be more desirable, as a trial offer, for twenty-five cents. Instanto paper is a very fine product and it might prove to be just the paper one is looking for, and this opportunity of giving an excellent product a trial at a very slight cost should not be overlooked by our readers. Look up the advertisement before the matter slips the mind and send the quarter before it is forgotten.

Photographers Plan Exhibit

The Photographers' Association of the Cincinnati Chamber of Commerce held their monthly meeting Monday, March first. As part of the New Cincinnati campaign, the photographers propose to demonstrate by means of an exhibition of Cincinnati photography that Cincinnati leads as a photographic center. The following committee was appointed by President R. E. Carl to arrange for the exhibition: J. Albert Jones, chairman; William Schuster, C. H. Longley,

J. F. Strouse, Lewis Steman, L. F. Redman, J. Anthony Bill, Frederick De Lisle, Michael A. Schmitt, J. G. McIan and Miss Harriet E. Oonk. The association will extend an invitation to the Photographers' Association of America to hold the 1916 convention in Cincinnati. The following committee was appointed to co-operate with the Convention and Publicity Department in an endeavor to secure the convention: J. G. McIan, L. F. Redman, C. F. Widman, J. Anthony Bill and William Schuster.

No Further Delay

In a recent letter from the International Photo Sales Corporation, 235 Fifth Avenue, New York, we are advised that the embargo on the several lines of German-made photographic goods, for which the above firm are agents, has been raised completely. They advised further that by the time the letter reaches us they will have received large shipments of Ica cameras and Carl Zeiss lenses, and no further difficulty is at all probable in their filling of all orders for these goods.

"What Lens Shall I Buy"

There is a whole lot of valuable information in a booklet bearing the above title that is being sent out by the Bausch & Lomb Optical Company, of Rochester, New York. Simply write and ask them for a copy and it will surely interest you when it arrives. It even tells one, on pages 7 and 8, what particular lens to use in order to save smoke. But, in all seriousness, a copy will interest and the one who is contemplating the buying of a new lens will be sure to appreciate the information it contains.

The Illinois College of Photography

James Piatt, student of last year, now engaged in motion picture work, made the college a pleasant call last week. He is a traveling operator for the Pathe Daily and Weekly.

President Bissell has just had the honor of being elected one of the directors of the State Bank and Trust Company of Newton, Illinois, he being one of the largest stockholders in that institution.

R. Jaramillo, of Medellin, Colombia, South America, has finished a course in both photography and photoengraving at the colleges, and has left for his native country, where he will engage in business.

CAMERA CRAFT



SAN FRANCISCO
CALIFORNIA

**Cyko from the standpoint
of illustrators for leading
papers and magazines**

The Pictorial News Co. of New
York writes as follows about

Enlarging Cyko

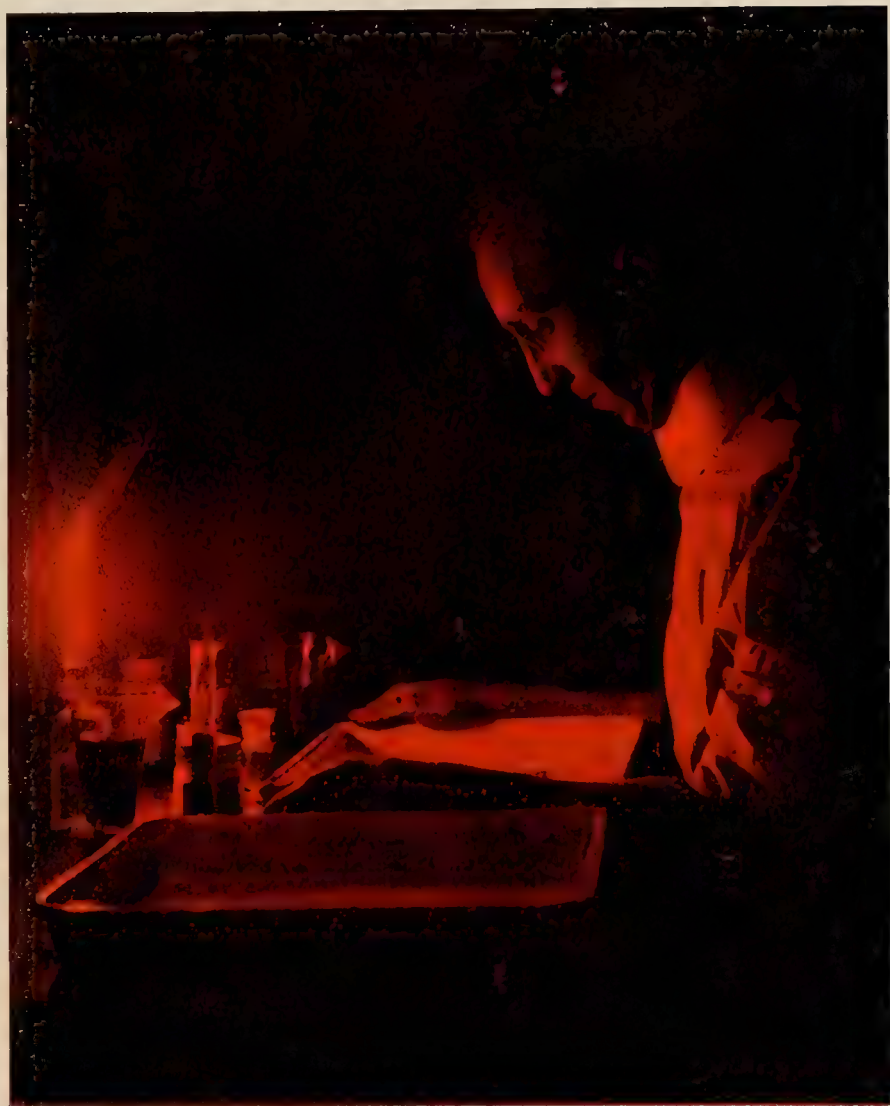
"Recently in our workrooms two men
and a boy exposed, developed, washed
and dried 52 — 22 x 28 Cyko enlarge-
ments in slightly over two hours. Fifty-
two prints were exposed and fifty-two
good prints delivered, not a single sheet
being wasted."

Enlarging Cyko

is the paper for large prints
from small negatives.

AnSCO Company

Binghamton, N. Y.



AT HIS SHRINE
By ARTHUR PALME


CAMERA
CRAFT


A PHOTOGRAPHIC MONTHLY**FAYETTE J. CLUTE, Editor****CALL BUILDING****SAN FRANCISCO****CALIFORNIA****VOL. XXII****MAY, 1915****No. 5**

Two Articles In One**By Charles I. Reed**

With Illustrations by the Author

In reading the title of this article, or rather articles, let the reader not assume that this is intended as an essay on a patent shoe polish by that name, and presumably intended for the dual purpose of polishing the camera and the photographer's shoes. Neither is it an advertisement for an oil that is claimed to be equally effective for oiling shutters and cleaning lenses, but the idea is to give the editor and readers of *CAMERA CRAFT* a sort of bargain sale of accumulated ideas and experience that, after being dusted off and polished, may prove of value to them. The first article, *An Effective Means of Preserving Developing Solutions*, describes a device that has been in use by the writer for over a year, experience proving that, if properly constructed, it is capable of preserving any developing solution for practically any length of time. It is a well-known fact that the oxygen in the air, when absorbed by the developer, causes discoloration of the solution and weakening of its action.

The object of the device to be described is to filter all the displacing air through a solution having in itself a strong affinity for oxygen; thus absorbing all the oxygen from the air before it comes in contact with the developer. The accompanying illustration will show the construction of the device very clearly. The container for the developer is a large bottle with sufficient capacity to hold all the solution to be compounded at one time; an empty five-pound acetic acid bottle will be a convenient size. In addition to the large bottle, two small, wide-mouthed bottles are also needed. Besides good corks to fit all three bottles, there will also be needed about five feet of glass tubing of one-eighth

CAMERA CRAFT

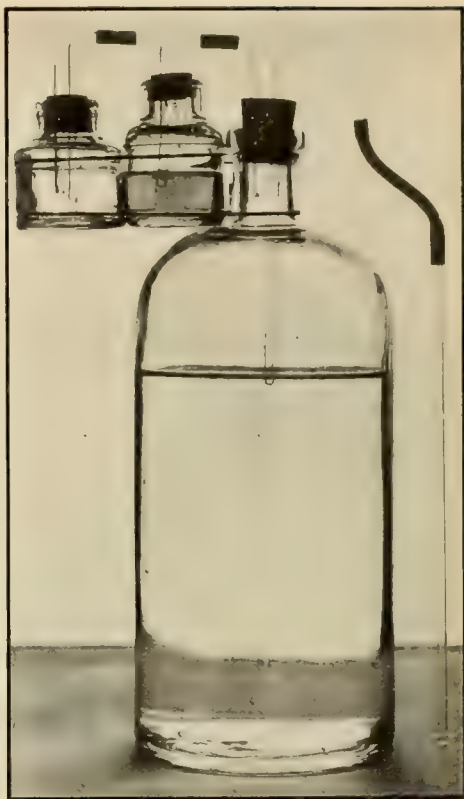
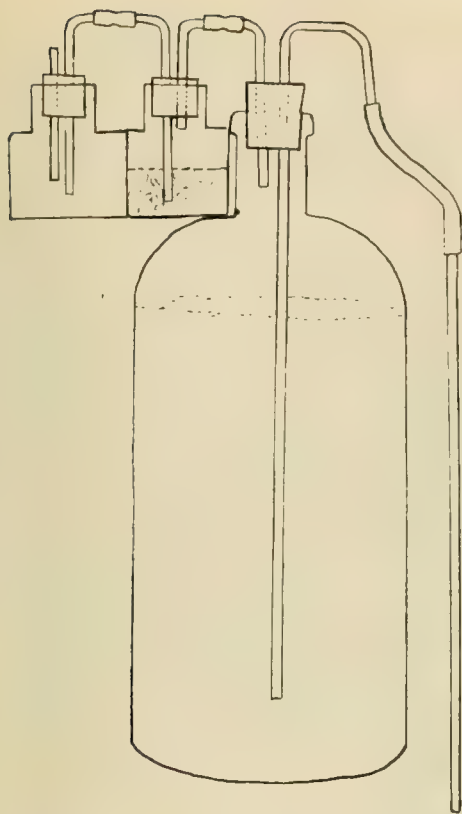
inch diameter, and about one foot of rubber tubing. Both the glass and rubber tubing can be obtained of any drug store for an insignificant sum. Two holes are drilled through each of the three corks to pass the glass tubes through. These holes are best drilled with a thin-walled metal tube of the same diameter as the glass tubing. The tube should be sharpened from the outer edge, and the holes are best drilled by placing the sharpened edge on the cork and bearing on it while revolving between thumb and forefinger. This leaves a neat and clean-cut opening to pass the tubing through.

The two small bottles are permanently fastened to the larger bottle by means of soft copper wire twisted firmly around them. A study of the illustration will clearly show the arrangement of the glass tubes. The developer is withdrawn from the large bottle by means of a syphon made from the glass tubing; passing through one of the openings of the cork to the bottom of the bottle and curving out over the neck, where it is joined to another length of glass tubing by means of a short length of the rubber tubing. This tube on the outside of the bottle must reach to a lower level than the tube on the inside to form the syphon. A metal pinchcock is placed over the rubber tubing to stop the flow of developer each time after the required amount has been withdrawn.

One glass tube about three inches in length is bent into U shape to connect the large bottle with the next small bottle, passing just through the holes in both corks. Another tube about five inches in length connects both small bottles, passing to the bottom of each bottle. A short length of the tubing is also passed through the other opening of the small bottle at the left to give a good air inlet. To cut the glass tubing: Wet the edge of a fine file and file a niche in the tube at the point where it is to be parted. With a bending and pulling motion the tubing is easily parted without breaking or splintering. To bend the tubing, hold it in the flame of an alcohol-vapor lamp until it drops into the desired curve, after which the lamp is removed and the tubing held in position until cold. Having connected all the tubes, prepare a saturated solution of pyro in water and add a few lumps of carbonate or caustic soda. Fill the small bottle in the middle about one-half full of this solution. Now place the prepared developer in the large bottle, and making all connections, start the syphon by suction. Melted paraffine should be poured around the corks and tubes to make everything absolutely air tight. After the paraffine has cooled, open the pinchcock and let a little of the developer run out into the sink. If all joints are air tight, as they should be, the solution in the small bottle will bubble furiously as it filters the displacing air. The device is now ready for use and can be placed on the dark-room shelf, with the discharge or delivery tube hanging over the sink. After a few hours, the developer will turn water white and will remain in this condition until the last ounce is used. The pyro solution will last for several refillings of the developer. This is an ideal method of preserving any solution affected by oxygen, such as the pyro developer, stock solutions, paper developer and any of the many solutions that are affected by contact with the air.

When the developer is being withdrawn from the large bottle, the air is drawn into the first small bottle at the left and up through the tubes into the next bottle, where it filters up through the pyro solution, which absorbs all the

TWO ARTICLES IN ONE



oxygen before the air enters the large bottle containing the developer, and thus the air in the container above the developer never contains any oxygen to spoil the developer.

The other article making up the duo should be entitled Drawings from Photographs, the same illustrations answering for it, as they show a method of making drawings from photographs that are suitable for illustration. The drawing shown is made from the rather poor looking photograph of the preserving device. The lines of the picture were traced with a fine pen charged with Higgins' waterproof india ink, using a celluloid guide for the pen in making the straight lines, and the print is then immersed in the following solution until the photographic image is entirely bleached away: Water, ten ounces; thiocarbamide, one hundred and fifty grains, and nitric acid, one hundred and twenty-nine minims (or drops). The immersion in this solution will take about ten minutes, after which the photographic image will be entirely gone and only the drawing remains. This is then washed in running water for half an hour. The writer has found this method of making drawings of great value in making mechanical illustrations, sketches and other line illustrations, its chief attraction being the ease with which any one can make clear illustrations without any previous practice in drawing, for it is impossible to produce false lines or perspective by this method.

Developing Paper for Timing Exposures

By F. Morris Steadman



With Illustrations by the Author



ORDINARY ROOM AFFORDS GOOD LIGHTING

In a letter recently received, it was asked that I prepare an article telling how developing or gaslight papers could be employed in my "least visible tint" method of light measurement and exposure. This for the reason that Solio and kindred papers such as are indicated in my original instructions are not always at hand or easily obtainable. As many readers of CAMERA CRAFT are using my older or original exposure method, the convenience of being able to employ any paper that happened to be most available, should interest, particularly when so doing is an extremely simple matter. In telling how, but little more than the description of a comparative experiment will suffice to give all the information necessary.

With the original method, Solio or other gelatine printing-out paper was recommended, for the reason that, being slower in tinting than certain developing and bromide papers, film emulsions, etc., even bright sunlight could be easily measured. True, the very brightest summer light, under the high sun and full sky, gives this "least visible tint" in one-eighth second, a time short enough to tax one's dexterity, but in such light a quarter-second exposure, one quite easy to achieve by slipping a coin off and on the tinting hole as the word "quarter" is spoken, will reveal a tint instantly recognized as the second spot in the "disappearing scale" of tints. Such a tint resulting, it follows that half the time given, or one-eighth second, would have sufficed to have created the required least visible tint. However, even more simple yet is the plan advised of accepting this maximum brightness of summer sunlight as a condition that, once

DEVELOPING PAPER FOR TIMING EXPOSURES



IN THE PATIO

paper for my new Unit Actinometer, I tested quite a number of papers and films. Doing so, I found that so far as the "least visible tint" is concerned, Watkins meter paper, Eastman and Ensign film and No. 4 Montauk Bromide were practically alike in tinting speed. These all give the least visible tint in one-eighth the time required by Solio or other gelatine papers. Therefore, with these faster mediums it is only necessary to multiply the tinting time, as found, by eight, a very simple matter and one that should have suggested itself to every worker. Of course, any smooth or glossy paper that one may be using can be employed as well as these faster papers, the gaslight papers falling, in the matter of tinting speed, somewhere in between these two extremes. All that is necessary is to

known, requires no future measurement. It is easy to determine if the sun be high and the sky clear; and, these conditions, prevailing, know that the tint time is one-eighth second. Only when the sun is about thirty degrees or less above the horizon does the tint time require a quarter second. With the shortest measurement possible with any paper, that of the "least visible tint," the gelatine papers are of great service, as, even with the sun at the horizon, only eight seconds are required to get the tint.

But when one is working in a weak light, as on very cloudy days, after sunset, by artificial light, or even indoors with good light outside, it is evidently a waste of time to employ gelatine paper in getting the tint when there are others that will do the work in much less time. In deciding upon a standard



PORTRAIT BY ORDINARY WINDOW

find the relative tinting speed, as compared to Solio, of the paper to be used.

Take the prescribed little notebook with the hole cut in the cover, and, standing about three steps from a window that faces the sky, get the "least visible tint" time with a strip of Solio or other gelatine paper. Then do the same with the particular gaslight or other smooth developing paper that is at hand and that is to be used in place of the Solio. This done, if the time necessary with the Solio proved to be thirty-two seconds and that with the gaslight paper eight seconds, it is obvious that the latter is four times as fast in tinting time as the former. Hence, one can, thereafter, take the tint time with that particular kind of gaslight paper and, by multiplying the time so found by four, have the Solio time on which my original exposure method is based. Had the tint time with the gaslight paper proved to have been sixteen seconds with the Solio thirty-two, then its factor would be two instead of four, as compared with the latter.

To avoid the confusion and inconvenience of a fractional factor, use only the geometric time intervals, as 1, 2, 4, 8, 16, 32 seconds, etc. Any deviation from this rule, either in making the tests or in actual practice, can be of no advantage and will certainly lead to confusion. While I am on the subject, it may be well to mention that the fastest tinting mediums mentioned only require eight seconds in which to measure a light that is only one-eighth as strong as ordinary daylight at the hour of sunset. It is this economy of time that has made the "least visible tint" method of determining exposure so popular with practical workers. One of the most accurate and justly reputed exposure methods on the market has, for its standard, so dark a full tint that it requires one hundred and sixty times as long for its tinting as is required to get a "least visible tint" on the same particular paper when the latter tint is secured in the open, through a hole in the cover of a notebook instead of behind the meter glass. Even in maximum sunlight about two and one-half seconds is required to match this chosen standard tint, on account of its depth of tone. Since it is perfectly easy to count a quarter second and to make an exposure of that length, it seems strange that such a deep tint should have been selected as the standard, especially since the method requires that the tint be secured by exposing the paper on the shady side of the subject instead of in the maximum light where of course still longer is required to get the tint.

Wider Training Advantageous

Although this is an age of specialization, it is believed that the most efficient workman is the one who has been trained in all of the operations pertaining to his trade. Such instruction always provides a mobile force, advantageous alike to employer and employe. The system of instruction whereby each workman becomes thoroughly conversant with all of the details of his trade, makes him superior to that neglected class which is subjected to a monotonous grind on one class of work. It places him beyond the application of the principles of so-called scientific management, because during his apprenticeship he unconsciously acquires much of what such systems are now endeavoring to establish.—JOHN S. LEECH.

Printing By Magnesium Ribbon

By C. A. Heald



With Illustrations by the Author



MARIPOSA LILIES—BUTTERFLY TULIPS

NOT having access to electric current or other artificial illuminant stronger than that afforded by kerosene lamps by which to do my printing, I was led to give magnesium ribbon a trial through reading several articles regarding it in former numbers of *CAMERA CRAFT*. I had employed daylight for several years, but it was so variable and uncertain that I was not satisfied with it as a printing light. However, after using magnesium ribbon for over a year, I can recommend it as giving perfect satisfaction; in fact, I should judge that on the score of rapidity and portability it would prove more desirable than electricity. Having never used the latter, I cannot, of course, speak with the authority of experience.

In telling how I use magnesium ribbon in my own work, I trust I may be able to help the reader who is, as I was, not fully satisfied with his printing light. Those dependent upon daylight or lamplight I would particularly urge to give magnesium ribbon a trial, promising them that it is hardly possible that a more economical light, or one more certain and rapid in printing, could be found.

Magnesium ribbon comes in thin, flat rolls having about twice the diameter of a silver dollar, and a thickness of about one-eighth of an inch, corresponding to the width of the ribbon. A roll usually weighs one ounce and is listed at about sixty cents. It can always be obtained of one's regular photo supply store, as the dealer can get it from his stock house in case he does not have it on hand. Although an ounce roll seems quite small, its light-furnishing power seems

CAMERA CRAFT

remarkably great. Owing to the thinness and lightness of the ribbon, the roll contains many more feet than one would suppose. Although I have not quite finished using my first roll, by actual count I have used it in printing three thousand one hundred and eighty-four prints or post cards, using from one-half to one inch of the ribbon for each print, so my readers can see that the cost per print is exceedingly small, practically nil.



BABY BLUE EYES
JAPANESE TRAILING ROSE
MANZANITA BLOSSOMS

INDIAN LETTUCE
FILAREE
EUCALYPTUS BLOSSOMS

In addition to being quite economical, it is also very rapid, only about two seconds being required in which to burn an inch of the ribbon, that amount being sufficient for very dense negatives when using paper as rapid as Cyko or Velox. Azo and other slower papers may take more for quite dense negatives, but one-half inch is sufficient for the average ones. I find this half-inch length the most convenient to use, as a shorter length does not ignite so readily and a

longer is unnecessary except in rare cases as stated above.

Using this uniform length of ribbon, the proper exposure is secured by varying the distance between the light and the printing frame; very thin negatives requiring as much as four feet between the half-inch of burning ribbon and the frame, while very dense ones require only six or eight inches if the negative is small enough to assure even illumination at that distance. Using normal Cyko, I find that an average negative requires from twenty to thirty

PRINTING BY MAGNESIUM RIBBON



SHOOTING STARS

CREAM CUPS

CALOCHORTUS

inches between the half-inch of ribbon and the frame. Hard Azo needs about sixteen inches with a rather thin negative.

Having once found the proper distance at which a good print is secured from a certain negative, and an inch or so more or less does not seem to make



NICOTINA

IRIS

NARCISSUS
185

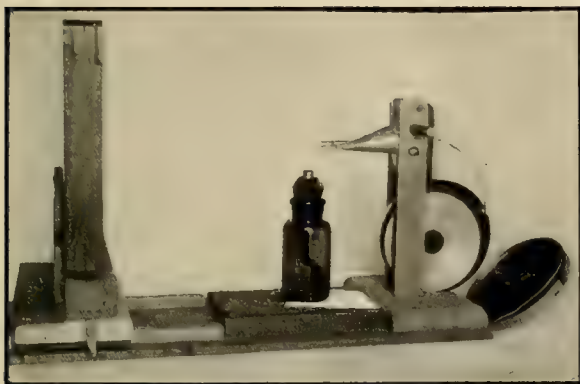
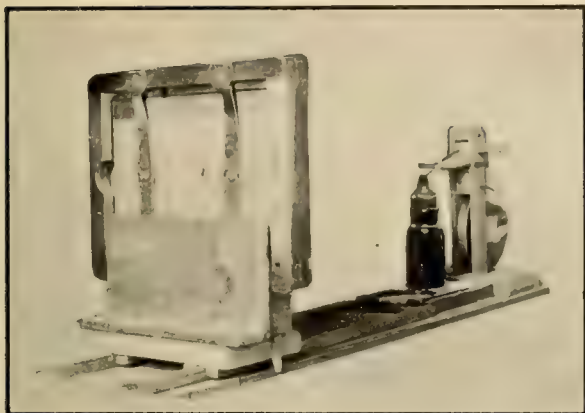


CALIFORNIA STATE FLOWER

any appreciable difference, the figure representing that distance can be written on the margin of the negative, thus avoiding any necessity of guesswork in making prints from that particular one at any future time, providing of course that the same brand of paper is used. For example: Finding one of my negatives marked " $\frac{1}{2}$ -30," I know it requires one-half inch of ribbon burned at thirty inches distance, using normal Cyko, which I adopted as my standard. If I wanted to use contrast Cyko, I would simply burn the ribbon a few inches nearer; and if I elected to use Azo, hard, on the same negative, I would bring the light as near as twelve or fourteen inches. This latter paper seems to be about four times as slow as Cyko, and the printing intensity of the light is four times as great at fifteen as it is at thirty inches, as the intensity of a light increases as the square of the distance decreases. But, after one has made a few prints by this light, it is as easy to estimate the right distance by looking at the negative as it is to judge the proper exposure by any other printing light.

To burn the ribbon one needs some kind of metal tube just large enough to permit the ribbon to pass through easily; a piece of tin bent to the right shape answers admirably. This should be supported on a wooden stand to bring it about the height of the center of one's printing frame when the latter is standing upright. Such a contrivance is shown on page 438 of *The Photo-Miniature*, No. 94. My own apparatus, which is also home-made, is a little more elaborate than this. As will be seen by referring to the illustration herewith, it works on

PRINTING BY MAGNESIUM RIBBON



TWO VIEWS OF PRINTING ARRANGEMENT

The container for the ribbon is made by telescoping together two coffee-can covers that have been selected as being of the right size. Two circular pieces of cardboard, one on each side of the ribbon roll, fill up the extra space and keep the ribbon from slipping off sideways and buckling up as it otherwise might. This container wedges in between the two upright pieces, the ribbon being pulled out as needed. One side of this container was removed, in making the picture, to show the roll of ribbon inside and the slot through which the end passed out. As shown, a thin metal strip, in reality a piece of an old corset stay, with one end bent so as to spring around and clamp onto the wooden upright, the other end extending parallel with and about one-half inch to one side of the tin cone, extending one-half inch beyond its end. This projecting half inch is for convenience in measuring the length of ribbon to be burned, as only that amount of ribbon extending through the tube will burn. This being to one side of the tube opening instead of in front as I have seen advised, no shadow is thrown on the printing frame. In igniting the magnesium, one should hold the alcohol lamp under the end of the ribbon until the latter begins to burn and then remove the flame to one side. If the lamp be left between the burning ribbon and the printing frame, it will change the color of the magnesium light and one print may not receive the same amount of illumination as another. This I also learned by experience.

the same principle and could be simplified somewhat. Although it is not original, I made it before I saw Mr. Zerbe's plan. It really is a sort of composite of several devices that have been described in *CAMERA CRAFT* at different times.

This illustration makes a description almost unnecessary, but I might mention that when I planned this device I intended to feed the end of the ribbon through the tube by passing it between two small wooden rollers that could be rotated by turning the end of the upper one seen projecting from the near side of the frame in the picture. This plan of feeding forward the ribbon I found would not work on account of the swelling and contracting of these wooden rollers. It is really quite easy to feed the ribbon forward by hand.

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The alcohol lamp I made by taking a small bottle and running a quarter-inch tube through its rather large cork. For a wick I used cotton twine, twisted and doubled until of the right diameter to fit the tube. If tube is smaller or wick not a fairly good fit, it does not burn properly. The flame does not give off enough light to affect the printing paper, and this simple form of lamp is more convenient and less messy than a candle.

The printing frame carrier is a block that slides a distance of forty inches, starting from the point where the ribbon is burned. The board forming the track is marked every two inches, beginning at six inches from the end of the ribbon tube. In the picture the printing frame is shown as eight inches from the ribbon. This track is made out of quarter-inch wood about five inches in width to which a couple of strips have been nailed for the printing frame carrier to slide on. These strips are not really necessary if care be taken to see that the printing frame is central with the light, but they are a convenience and any one desiring more detailed information concerning them should refer to the article and illustration on page 380 of the August, 1913, *CAMERA CRAFT*, from which I got my idea. My track is in two sections, coupling together, the second section being added, as I found the original length of twenty-four inches was too short for printing weak negatives with my half inch of ribbon.

This article was started several months ago and as I am now using my second roll of ribbon, I am in a position to know about how far one of them will go. Every time I printed I jotted down the number and this tally shows that three thousand one hundred and forty-two prints have been made with one roll of ribbon. The apparent discrepancy between this last figure and the earlier one is explained by my failure to deduct ninety-eight Artura green prints that were printed by daylight instead of magnesium; but as many prints had double-printed or tinted borders, the roll would have gone somewhat farther had all the prints been plain ones. The Eastman Kodak Company is now putting out a magnesium ribbon holder and alcohol lamp, each at the nominal price of twenty cents. These should prove very convenient, especially to one traveling about. However, one should bear in mind that this holder does not accommodate the full-sized ounce roll of ribbon, but takes a smaller roll supplied for its use.



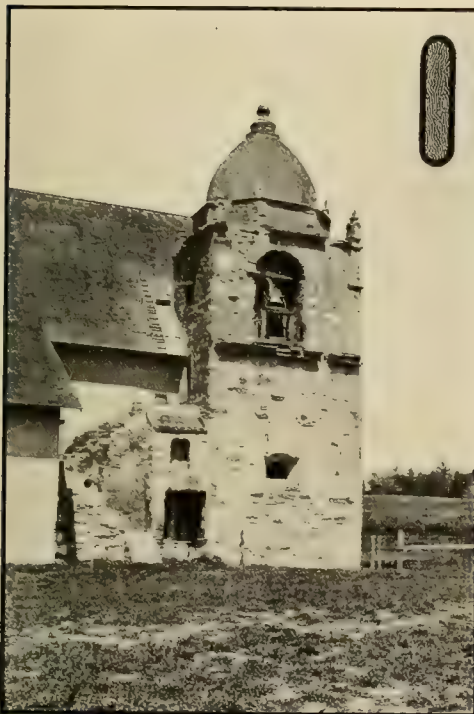
MAMAN COCHET AND BRIDESMAID ROSES

Printing In Clouds and Kindred Matters

By R. H. Appleby



With Illustrations by the Author



THE OLD MISSION

IN THE method of printing in clouds that I have worked out and found satisfactory, calls for the following items are required: A cloud negative, a printing frame with a ground glass to fit, some lampblack, a little cotton and the view negative to be improved. The method is really that of double printing.

With the ground glass in the printing frame, ground side out, place the negative thereon in the usual position. Holding these in place, hold the frame up before a strong light and block out, on the ground side of the ground glass, all that part of the negative below the sky-line. This last is done by rubbing the lampblack into the ground surface with a tuft of cotton or a bit of soft rag. Another and perhaps better method of holding the ground glass and negative together while applying the lampblack, is to place the two back to back and clamp them in that position.

The sky-line should not be followed too sharply, but be blended off somewhat. One will soon learn by experience, the minor details being only a matter of a trial or two. Care should be taken to avoid the double printing effect of intensifying the shadows in trees and the like. It should be remembered that while distant trees frequently come as black as coal in our photographs, as a little observation will prove, the intervening atmosphere makes them appear to the eye a number of shades lighter than their own local color, even when the light is quite poor. It is not a bad idea to take a little Acme water color of any red hue, make a more or less strong solution with water and a brush on a piece of glass, and apply this evenly to such too thin portions of the film before making the landscape print, thus lightening these distant trees or tree masses. So doing not only makes them more as the eye sees them, but it greatly increases the effect of distance in a landscape picture. This effect can also be

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assisted by shading or dodging the landscape part of the negative while the clouds are being printed in. If one's printing lamp is so arranged that the frame lies on a shelf or table below, this dodging is quite easy. Where bare limbs or light foliage come against the sky, they can be ignored and the clouds printed right across them.

If one prefers to paint out the landscape instead of rubbing in the lampblack, and this is often a better method where a thin negative is to be treated, he should use a little Gihon's Opaque, applying it to the ground glass with a little water and a brush. It is not necessary to do this all the way down to the bottom of the negative; a strip coming a little below the sky-line will suffice; the balance can be covered with a piece of opaque paper stuck on temporarily while printing in the clouds.

After the ground-glass mask has been prepared, remove it from beneath the negative and proceed to make a print from the latter in the usual way. After the exposure is made, remove both paper and negative, return the ground glass to the printing frame ground side out, place the cloud negative upon it, return the paper already exposed to its place, and then make another short exposure, printing the clouds into the otherwise vacant sky. If the two exposures have been properly timed, the print should develop as does one from a good negative, showing both view and clouds. One should avoid printing a sharp, contrasty cloud negative into a landscape from a negative of a softer or different character, or vice versa. This first difficulty can often be overcome by reversing the too sharp cloud negative and printing from the glass side. It may be necessary to make a few trials before one gets everything working together. A good plan is to find the time of exposure required for each negative by using a separate piece of paper. Should this process prove too tedious, where a large number of prints are desired, endeavor to get one good print and then copy it. The resultant negative will make double printing, and all the trouble that goes with it, unnecessary. If at first you don't succeed, try again. The ground glass is easily washed free from the lampblack, ready to be used again. In placing the ground glass, negative and paper in the printing frame, care should be taken that they register; this can be assured by having all come snug, each time, into one given corner of the printing frame. A photograph is often greatly improved by a little judicious manipulation of this kind. An otherwise charming view may look cold and uninviting through the nakedness of a clear white sky, and such can be made much more pleasing by the introduction of a few scattered clouds. Clouds cannot always be secured at the time of taking the picture, particularly if one be on his vacation trip during our cloudless summer months when the sky is always a clear blue. I have been on a number of such trips, but always that same clear sky.

By this printing-in process one can not only improve his views, but the work is very fascinating to the camera enthusiast. It is, of course, necessary that one have several good cloud negatives. Watch for good cloud effects and get them both vertical and horizontal; and, if possible, have them in both contrasty and soft classes. A good cloud negative should not be over-exposed. Better to have it a little under-exposed, as this will greatly help in double-printing, the required exposure being shorter. In making the negatives, it is better to have the clouds

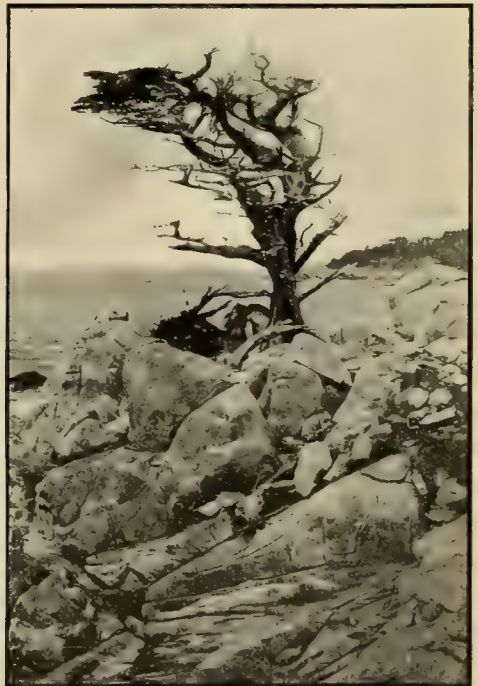
PRINTING IN CLOUDS AND KINDRED MATTERS



CYPRESS POINT—CLOUDS PRINTED IN



A BALD-HEADED SKY



WITH CLOUDS PRINTED IN
191

cover at least two-thirds of the plate so that any tree tops or buildings will not interfere when one comes to use it in connection with other views in which the sky-line does not rise very high. It is necessary that the most of them be taken with one's back to the sun, as the majority of one's view negatives will be taken that way. This, one will understand, because the shadows in both clouds and landscapes should show as falling in the same direction.

As to making one's own ground glass, the first need is a good method of cleaning off old negatives to get the glass. We have had a number of plans for doing this suggested by CAMERA CRAFT readers, but I found, by accident, a method that is not only simple and inexpensive, but very effective. Intensifying some negatives one day, on putting the last one into the re-developer I was suddenly called away. Returning, after being gone several hours, I thought of that negative; and, to my surprise, found the film, in one sheet, entirely removed from the glass. While I had lost a negative, I had found a simple way of removing the emulsion from the glass. A professional friend who was told concerning it has used the method ever since. If one uses pyro as his developing agent, he should, instead of throwing it away when through, leave it in the tray, putting an old negative into it. Set aside for a few hours, or better still, overnight, and the next morning the film will be found quite loose. All one then has to do is to pick up the film, take the glass out and wash it off, when the latter will be found as clean as it was before the emulsion was applied.

Having procured the clear glass, all that is needed is a little flour of emery, and water; and all the ground glass one needs is easily prepared. Lay one of the pieces of glass on the palm of the open left hand, sprinkle on it a little of the flour of emery and moisten with water. Then lay a second piece of glass upon the first and with the right hand on top, commence grinding the two together by rotating them in opposite directions. The progress of the work may be examined from time to time by rinsing off the emery. If unground spots remain, repeat by adding more flour of emery and water and continuing the grinding.

My work table is in one corner of my work room, with my printing light two feet above its top. The socket is attached to the wall, the lamp extending out in a horizontal position. About eight inches below the lamp, or bulb, a shelf, eighteen inches square, is supported by ordinary wall brackets. Above the lamp is the lid or cover of a good-sized white cardboard box for a reflector. The exposures are made with the printing frame lying on this shelf, thus making any dodging quite easy. When the printing is done the white light is switched off and the developing done by another bulb contained in a box having an orange paper front, the box standing on the table behind the developing tray. This is a very convenient arrangement, not only for printing in clouds, but for all ordinary work. Any one at all handy with tools can rig this up at small expense.

A soft working developer is sometimes required in this work, as one often has a thin yet contrasty negative from which it seems almost impossible to secure either detail or softness, especially where masses of trees are prominent in the picture. In such cases one will find the following developer to give results. With it I have made better prints on contrast paper than I could get with ordinary developer on soft paper. As this formula is only occasionally required, one

PRINTING IN CLOUDS AND KINDRED MATTERS



UNDER THE PALMS



A JAPANESE GARDEN

should make it up in small quantities as needed so as to be sure to have it fresh:

Water	25 ounces
Metol	20 grains
Sulphite of soda.....	120 grains
Carbonate of soda.....	90 grains
Bromide of potassium.....	15 grains

Dissolve chemicals in order given, when it is ready for use. As it works slowly, one should be careful not to over-expose. It should take at least one minute to develop a properly timed print.

Moonlight pictures have nothing to do with the printing in of clouds, but I might interest some reader with an account of my method of securing them. I have read that to make moonlight pictures it was necessary to set up the camera and make a short exposure of the moon, then sit down and wait until the moon was high enough to be out of range of the lens. I tried this and found that it took the biggest part of an hour, but while waiting I was not idle. I got to thinking and the following plan was the result, a plan that I found very satisfactory. With the moon about an hour or an hour and a half high, raise the lens board to the top, set up the camera and locate the image of the moon about one-third of the distance from the top of the plate, or rather, from the bottom as one looks at the ground glass. An exposure of from one to five seconds, according to the stop used, will photograph the moon. Then return the slide to the plate holder and remove the latter from the camera. Then lower the lens board until the moon disappears from the ground glass, put back the plate holder

and make an exposure of from ten minutes to half an hour, according to the stop and plate used, for the rest of the view.

In conclusion, I would like to say that it is exploring these bypaths of photography that keeps our interest alive. Were it not for the fascination of such work, I fear my own camera would now be collecting dust on a shelf in some dark closet. We must be doing something different; and, when one has found something different, he should pass it along. I am far from being through with my trying of new ideas, so the readers of CAMERA CRAFT may hear from me again.



A Work-Room Utility

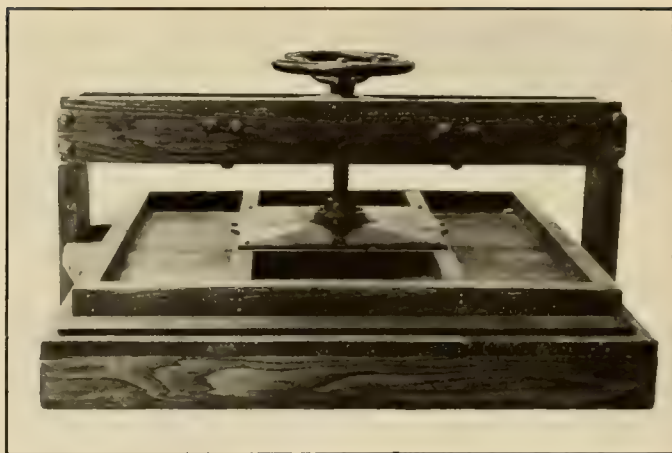
By Rollin H. McKay



Herewith are shown illustrations covering a utility that I recently added to my work-room equipment, one that I have found so useful and convenient that I am encouraged to give my fellow readers of CAMERA CRAFT a description thereof. The cabinet is built of ordinary one-inch dressed lumber, and its construction is so simple that detailed measurements are not at all necessary, particularly as different workers may perhaps wish to construct it a little differently as to dimensions. This particular one is four feet two inches in height, two feet nine inches deep, and three feet wide outside. The drawers, of which there are eight, measure twenty-eight by thirty inches inside. The press has a base twenty-eight by thirty-one, made of 2x4 dressed lumber screwed to-

A WORK-ROOM UTILITY

gether on edge in the shape of a picture frame, across which are nailed three pieces of one-inch lumber, as shown. The platen, or part raised and lowered by the screw, is made somewhat smaller, and as shown in the illustration. The uprights are fourteen inches long and are cut from 2x4 lumber as used for the base, while the



cross-arms are 1x4 chestnut. The metal parts are those of a second-hand letter press that I picked up for one dollar and a half in a local store. This is a very satisfactory press for placing bromide prints to dry flat between blotters, and as the only tools required are a saw, square and plane, there is no reason why every photographer should not use a little of his spare time in constructing one for himself.

Man's Work

Man must work—that is inevitable. But he may work grudgingly, or he may work gratefully; he may work as a man, or he may work as a slave. He cannot always choose his work, but he can go about it in a cheerful, generous temper and with an uplooking heart. There is no work so rude that he may not exalt it; there is no work so dull that he may not enliven it.—*Printing Art.*



The Wanamaker Exhibition

By the Editor



As many of our readers know, John Wanamaker, Philadelphia, has held an annual exhibition of photographs for a number of years, the last, held from March first to fifteenth, being the tenth. Year by year this exhibition has gained in both the number of pictures entered and the general quality of the work, until, today, it ranks as one of the important photographic events of the year, attracting as it does the attention of many of the best pictorial workers of the land.

In the exhibition just closed there were twelve hundred and twenty-nine pictures catalogued, these the work of some three hundred and over contributors. These figures include eighty-one pictures, the work of the members of the Philadelphia Section of the Professional Photographers' Society of Pennsylvania, forming a special loan exhibit not entered in competition for the prizes. These prizes were eighteen in number, the first being one hundred dollars, the second fifty, the third twenty-five; the next five, ten dollars each, and the following ten, five dollars each, while honorable mention was accorded to



FIRST PRIZE: THE LESSONS

By ALICE BOUGHTON

THE WANAMAKER EXHIBITION



SECOND PRIZE: THE FAUN

By WILLIAMINA PARRISH

seven. The three judges, George Gibbs, George M. Harding, and F. Vaux Wilson, all of Philadelphia, are men who know photography as well as pictures, being themselves illustrators of more than local fame. Consequently, we may be quite sure that their placing of the several awards was in accordance with the pictorial merits of the pictures so honored.

Alice Boughton of New York City carried off the first prize, one of ten dollars and one of five. Williamina Parrish of St. Louis won second prize, and Carl Struss of New York City

captured the third prize, with two of the five-dollar ones and an Honorable Mention. John W. Gillies, also of New York, won two prizes of ten dollars, one of five dollars, and an Honorable Mention. Angelo Romano, Philadelphia, won a ten-dollar prize and an Honorable Mention, while Winfred S. Hyatt, of the same city, achieved the first. Beatrice B. Bell, Santa Barbara; Ben J. Boyd and Will D. Brodhun, of Wilkesbarre; James Rittenhouse Evans, of Pottstown, Pennsylvania; N. S. Wooldridge, of Pittsburg, and Charles V. Sparhawk, of New York, also won five-dollar prizes. In addition to those already named as receiving Honorable Mention for their pictures were Samuel H. Avery, of Chicago; William H. Fisher, of Baltimore; S. J. Jeffery, of Yonkers, New York, and Charles H. Renish, of Baltimore.

While some small part of the work that was hung and catalogued was no doubt below the standards set by the average selection committee of photographic salons and exhibitions, the beneficial effect of making an exhibition of this kind



THIRD PRIZE: LANDSCAPE

By CARL STRUSS

more easily accessible to the work of those not yet in the front ranks of the pictorialists should not be overlooked. Several who are today doing the best of work are not ashamed to admit that they received most welcome and needed encouragement in their earlier days of struggling with photography as a means of producing pictorial work, through having their efforts accepted and hung at one of these popular exhibitions. All credit is due this commercial organization, the house of John Wanamaker, Philadelphia, for their services in providing, through this annual exhibition, an opportunity that is not otherwise offered to many workers.

The reproductions of the chief prize-winning pictures shown herewith are from the blocks used in the catalogue of the exhibition, these blocks being kindly loaned us for the purpose. Reproducing these, we can hardly do better than reprint, as well, the enlightening "Foreword" to the same catalogue, a contribution by that well-known authority on art subjects, Henry R. Poore, as follows:

"Constructively, all art must express unity. Without this, no end of good material may be thrown away in useless effort.

"A judgment upon art has this as its chief criterion. The unified product never 'gets by.'

"This becomes the first thought of the artist as he formulates a subject in his mind, and the last as he approves and releases it when finished. The competitive works in this catalogue show all sorts of effort to train to this line and all sorts of neglect of and divergence from it.

"Art has little concern with subject. Art is not a thing, it is a way. The poet strives to put the best words in the best order, and this should be the effort

PARAGRAPHS PHOTOGRAPHIC

of the pictorialist: to put his selected material into its best—its most efficient—order. The subject is merely an interesting circumstance, often requiring but small invention or little search. The way in which this subject is interpreted to us becomes the gauge of the art, and we feel it to be good when it approaches the principles on which art rests, and we know it to be bad when it separates itself from these."



PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

A PRINTING HINT: Negatives that are poor printers because of a blue or blue-black color, although otherwise good, can easily be made to give stronger and better prints by soaking the dry negative for about eight minutes in an old pyro developing solution. Should this last not be on hand, it will only be necessary to make up a new one, omitting the sulphite, which will cause it to discolor quite rapidly upon exposure to the air. After the proper depth of stain has been secured the negatives should be washed and dried as usual.—Louis R. Murray, New York.

WASHING FILMS: For some time I washed my roll film by placing them in a deep tray where they were given successive changes of water, but I was at a loss as to how to prevent them from curling up so that the water did not reach the entire surface as uniformly as I felt it should. This difficulty I finally overcame by taking the two ends of the film and pinning them together to form a loop or hoop with the emulsion surface on the inside. So pinned, the films are placed on edge in the water and permanganate tests show a much more rapid elimination of hypo than was the case when the films were simply laid in the water and given occasional changes. I mention this, as the plan is original with me, although it may have been hit upon by other workers.—C. W. F., Wisconsin.

AN IMPROVISED FOCUSING SCREEN: When I desire to study the composition of any particular scene in my 3A Kodak, I use a simple little device that I have never seen described. It is constructed by cutting a piece of oiled tissue three and one-half inches wide, and inserting it in the center of a piece of the paper backing from a used film cartridge. Clip the corners of the paper to correspond at each end and wind on two empty spools. I note the number of exposures already made, take the Kodak into a dark room and remove the cartridge, rewinding a little of it and putting it into a perfectly safe, dark place. Insert the spools containing the tissue in the Kodak, draw it into place with the winding key, and compose my picture, marking well the position selected and that of the lens or front. I then return to the dark room, remove the paper

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roll, re-insert the cartridge and wind the film to the proper number for the exposure as marked. When not in use, a rubber band holds paper and spools together. For carrying afield only one spool is necessary, as the device can only be used when changing cartridges, and there would then always be one empty spool in the Kodak.—Mrs. G., Oregon.

STEADYING THE TRIPOD: G. H. J., Oregon, suggested, in the February issue, the holding of a string under the foot, one end being attached to the tripod head while the other was held in the hand. While this plan may work satisfactorily with him, I would not advise its adoption by every one. It is easily seen that if an exposure were to be made of one or two seconds' duration only, and the foot or hand were to move ever so little during that time, motion would be imparted to the camera and cause a blur; in fact, such motion would no doubt cause a blur in an exposure of one-third or one-half second. If G. H. J. will tie a small spring scale to his string, pull on it hard enough to strain the legs of the tripod, note how many pounds are indicated, and then select some object of about that weight and suspend it by the string so that a corner just touches the ground, he will steady his camera much better. However, after all is said and done, the one best way to steady a camera is to use a tripod of the proper construction and of sufficient weight and stability. I had wondered for several years why the work of two of my acquaintances, both experienced commercial men, was frequently just a trifle unsharp, even when the work demanded the most exact focus. One of these men boarded a car on which I was riding a few days ago. He had his 8x10 outfit along and that let the cat out of the bag, for his tripod, while heavy enough, owing to its faulty construction was none too steady for a much smaller camera.—C. J. Hibbard, Minnesota.

TRIMMING GAUGE: Take a strip of ground glass about one and one-half to two and one-half inches wide, and as long as desired—from six to twelve or more inches. After insuring the straightness of the edges, take a hard pencil and, on the ground side, mark a line of dashes along one edge, the distance from the edge being regulated by the width of border desired on the prints. For convenience in trimming the different widths of border that will be wanted for various sized prints, a series of these dash lines should be drawn, say three, five and seven thirty-seconds of an inch distant from one edge, and two, three and four-sixteenths from the opposite edge. In using, the ground side is placed on the print to be trimmed, with the line of dashes that will give the desired width of border over the edge, and the cut made, beginning a short distance from the upper end, then finishing the cut. In this way the corner will not be torn off as sometimes happens when the cut is started at the upper end and finished with one draw of the blade. A refinement of this gauge is to have the edges ground straight and square, as sometimes the cut in the glass will break in or out from the direct line, owing to the general cussedness of the material. At two or more points, lines may be drawn across the strip, forming a right angle with the edge, which will often be found a convenience, used as a square. Gauges such as these have been used by the writer for some years and are preferred to the ordinary print trimmer.—H. F. Buhrmeister, California.

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A PHOTOGRAPHIC MONTHLY

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Our Frontispiece This Month

The picture, "At His Shrine," Mr. Palme advises us, was made as follows: Inside an old kerosene dark-room lamp, with the ruby glass removed, was placed a pair of arc lamp carbons and a ten-ampere arc formed between them. In front of this intense light the model was posed so that his face was fully illuminated. A small hand camera, $3\frac{1}{4} \times 4\frac{1}{4}$, was arranged on a tripod at right angles to the scene so that no direct light from the arc could reach the lens. This last, a double anastigmat, was stopped down to f-12 and an exposure of six seconds given on a Lumière Sigma Plate. A strong Rodinol solution was used in developing the negative, which, of course, was far under-exposed, showing nothing more than the high lights in order to secure the desired effect. This small negative enlarged to 8x10 and stained with red "Tabloid" stain gives a most pleasing, realistic effect. This kind of high-light effect is not new, but few of these pictures find their way into the photographic magazines and therefore this is offered in the hope that it will inspire other readers to attempt similar pictures.

Mr. Steadman's Article

On another page, Mr. Steadman explains how any paper that the worker may be using for his printing can be employed in testing the light in connection with the simple, practical exposure method described in his book, "Unit Photography," as well as in his former articles in this magazine. Mr. Steadman asks us to advise that, owing to unexpected difficulties in the production of dies of the necessary precision for the manufacturing of the actinometer mentioned in his recent advertisements of the book, the manufacture of this instrument will be delayed until he again finds time to take up the matter at some future date. For that reason, those having in mind the purchase of one of these actinometers should refrain from ordering until an announcement is made later that they are ready for delivery. The fact that Mr. Steadman is not at present prepared to supply the actinometer should not deter any one from purchasing a copy of the new book, as one's ability to adopt and apply the simple methods described therein is in no way dependent upon the possession of one of these convenient little meters, as the reader will clearly understand after reading Mr. Steadman's article in this issue.

Moving Pictures In The Home

It seems quite obvious that aside from a few difficulties and drawbacks, moving pictures stand as good a chance of becoming as popular or as much of a fad as were stereoscopic pictures a number of years ago when no home seemed complete without its stereoscope and collection of slides. Why not the same popularity as that of the family album of another bygone period? Simply

a matter of a few difficulties and drawbacks, and these such that they are bound to be overcome at no very distant date, less distant as the demand increases. The question of equipment price is rapidly suiting itself to the demand and will continue to do so. Simplified cameras for the making of the original film are already offered at quite inviting prices. The expense of the positive films will no doubt be greatly minimized by a process of reversing the negative film itself when but one copy is wanted, and the circulating library system will do away with a large part of the expense of securing other than subjects of private interest only. Given a moment's thought, one can realize that there is really no reason why the equipment necessary to produce and show moving pictures of a wide variety of home subjects should not be in the possession of every well-to-do family in the land. One could hardly arrange a more enjoyable evening for the members of his own family and a few intimate friends than one devoted to the showing of a few small reels depicting scenes and events of interest to them all. And with the circulating library of picture reels available there would be no difficulty and but a slight expense incurred in filling out a full evening's entertainment at any time one might desire, once the projecting equipment was purchased.

But the strongest appeal is made by the possibility of securing individual home pictures in this form, pictures depicting the actions of the junior members of the family, pictures showing the homely, homelike scenes so dear to all of us in after years even when only memory serves to bring them back in a less satisfying way. Think of the pleasure a few well-made reels would have to the members of the same family, or such of them as remained, twenty years later, ten years later, even the matter of five short years from the date on which they were made. In this there is certainly a strong appeal and one that an enterprising salesman would employ to great advantage. The average photographer is not exactly an enterprising salesman, but he could no doubt explain the matter in sufficiently sincere a manner to secure many orders for projectors and the making of such film if he would but give the matter his attention. Quite true, the work has not as yet been forced upon him, but the photographer will make a mistake if he waits for that happy event. The selling opportunity is good enough to be inviting to men with enterprise enough to master the technical part of the work or such men may do the placing of the equipment and then undertake to supply the desired reels of home pictures by employing the photographer, no doubt doing this last by employing the particular one who will work for the lowest wage per hour. There is no reason why the photographer himself should not handle the whole transaction and derive the profit therefrom. So doing will mean that he must be first in the field, and this last will no doubt demand some pioneering on his part, pioneering that is not at once remunerative. However, the field is certainly one that belongs to the photographer and he can blame only himself if he allows it to slip away.

"I would make you a Princess."—"Then I would not be a true Princess. To be a true Princess I must strive for the treasure and win it for myself. It is the striving for a thing that wins the crown, not the possession of it."—"The Foot of the Rainbow."

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

The Alum Bath In Autochrome Development

E. A. Bierman has recently offered various useful suggestions on autochrome technique and among them strongly insists on the use of the alum bath, which he employs, in the form of a saturated solution, for one minute after the first development and again for two minutes after the reversal. He reverses with potassium bichromate, two grains, and sulphuric acid, four minims, to the ounce. It seems to me that this procedure would probably diminish the frequency of green spots. I have used the formalin bath in this way and think it helped.

Improvement of Negatives by Means of Methylated Spirits

I have for a considerable number of months been using methylated spirits for the removal of irregularities—such as false lights in the eyes, hair markings (black in negative), and other variations which occasionally crop up to vex the operator (or retoucher) who wishes to turn out a perfect negative—one which will require the minimum amount of spotting.

During the winter months, when the light is weak and the operator has to admit all the light possible without being too particular whether it strikes the sitter or sitters to the greatest advantage, there will occur false lights in the eyes, and this more particularly so in the case of groups. These are easily, simply and safely removed and reduced to the proper depth in the following manner:

Take any suitable piece of fine wood (I use the handle of a worn-out sable brush) and scrape it down to a fine point, dip it into a small bottle of methylated spirits and rub it on the point to be reduced with a circular motion. Keep the point of this wooden stylus well moistened with the spirit, and a few touches achieve the required result. Should a deposit be left on the surface of the film it is easily removed with a pledget of fine

cotton wool slightly damped with spirit. For broader patches almost any means may be taken to apply the spirit—I have found a chamois leather stump very effective and convenient, and it also has the advantage of being useful as long as there is a trace of the damp spirit left on it. I have successfully applied the spirit by means of a pencil of shoe-sole leather, obtainable from any shoemaker or boot-repairing shop without cost. By paring it to a chisel-shaped point and using the diagonal or beveled flat surface it reduces the film very evenly and sweetly. In introducing artificial clouds on a negative, you can give just the last realistic touch by using the spirit-damped stump to give just a sensation of a shadow on the lower side in diagonal juxtaposition to the highest light; but do not overdo it, as the smallest suggestion of shadow is usually quite effective, and if tastefully done yields no suggestion of faking. For improving landscape negatives it is simply invaluable, adding depth and giving vigor to the foliage, trees, sky, or foreground, giving just that appearance of pluck which redeems it from all traces of flatness, and is applicable to the finest lines or the broadest masses. For removing those fine black hair markings which sometimes occur—usually on the most important negatives—it is only a minute's work to obliterate it with a fine point, and nothing more is left except sometimes a semi-transparent line, which is easily retouched to the level of the adjacent parts of the film. It requires almost no skill and only the necessary judgment to observe when the density level is reached, and to less experienced workers is much safer in result than the use of the knife, which requires much more deftness and practice. When copying busts from a group where faces come in front of the figure to be copied, it is fairly easy by means of abrasion with spirit to reduce the objectionable light objects, retouching to strengthen the shadow parts, having recourse to the use of Billdup and Billdup black on the glass side of the negative to

obtain a suitable and even background, light or dark, as required; or by the spirit-dipped stylus, straight lines or ornamental touches can be added to any background when it is felt that a negative can be improved thereby. A softer point than that of cedarwood is sometimes desirable, and that may be obtained by trimming the wood of an ordinary match to a sharp point and fitting it into the holder of a retouching pencil. Used thus, the fibers at the point separate themselves and form a short brush, which is very smooth and easy to work with. I do not like to alter a good negative more than is absolutely necessary, but it is very convenient when desirable alterations can be so simply and effectively effected. I have just now tried the same procedure on a bromide print, but it seems to be only partially successful, probably owing to a certain proportion of the emulsion having been absorbed by the paper on which it was coated. It ought, however, to act all right on baryta-coated papers on which bromide prints have been made.—R. C. Platt in *British Journal of Photography*.

The Latitude of the Autochrome

Little appears to have been written about the latitude of the Autochrome plate, principally, I imagine, because it has generally been accepted that it has very little. Now I suggest that the term "latitude" may be considered in two ways. One is the ordinary term by which we express the range of, or limit of, exposure that a plate will stand in order to render a perfect result, and is a term which is comprehended by all photographers. For example, taking a slow-ordinary plate which will render a perfect negative of a subject with the actinometer-calculated exposure of eight seconds, we know that an exposure of two seconds or thirty-two seconds (light and stop being the same) will produce a negative capable of giving a print as perfect as the first. Hence we speak of the "great latitude" of the slow-ordinary plate in the matter of exposure. So much, then, for the ordinary acceptance of the term "latitude."

The other way in which we may regard the term is with respect to the amount of "personal interference" a plate will stand in the matter of exposure combined with development; and in this latter way the latitude of the Autochrome plate is infinitely greater than in the former.

Dealing with the first kind of latitude, I have found that all daylight subjects will bear a variation in exposure amounting to double the given actinometer (Watson Color Meter) measure, taking the speed of plate as 2'. I recently made two exposures of shipping, one with actinometer time (which I will call normal) of eight seconds, the other (same stop, etc.) of sixteen seconds. Developed for same time and at same temperature, the results proved identical. This I repeated with garden subjects and portrait interiors, getting the same results. Thus double-normal exposure proved as good as normal.

I then experimented with half-normal exposure and three and four times normal exposures, developing, according to temperature, for a correctly exposed plate, and proved in the first case under-exposure and in the two other cases over-exposure. Thus the latitude, in the general sense of the Autochrome plate, is limited to double-normal exposure.

But by "personally interfering" both in the matter of exposure and development the latitude of the plate is really enormous. I will give one of many experiments. Shipping in harbor: This I first considered as a subject requiring one-third of the exposure for ordinary subjects, being an open one of ships, sea, and sky. So in this case I shall call it "X normal" exposure. The exposures were made with same stop and lighting, and plate speed by Watkins color meter judged as 2'. No. 1 plate at X normal gave, with normal development (Watkins thermometer calculator for correctly exposed plate), a perfect result. No. 2 plate at one-third X normal exposure and normally developed proved under-exposed (on reversal, and judging finished result). No. 3 plate at one-third X normal exposure, but developed a quarter longer than normal time, proved equal to No. 1. No. 4 plate had full normal exposure (not X normal, but normal exposure, as for ordinary subject, and therefore three times X normal), with half-normal development, and proved equal to No. 1. No. 5 plate had double-normal (twice that of No. 4) exposure and a quarter-normal development, and also proved equal to No. 1.

I now tried the method of giving double-normal exposure, desensitizing the plate before development (with five per cent potassium metabisulphite for thirty seconds), and

A PHOTOGRAPHIC DIGEST

developing for half-normal time. The result was correct in the matter of density, but the colors were not rich; in fact, they appeared degraded and faded. Several like experiments with variations in exposure and development always resulted in the colors being degraded, and the plates had not that brightness that plates developed in the ordinary way, without desensitizing, possess. This result was not due to the use of a yellow or red light, for a "Virida" light was used in the oil lamp for all the experiments. I think my experiments have proved that this method of "personal interference" in regard to exposure and development show the Autochrome plate to be possessed of very great latitude.

Intensification with mercury-iodide, and reduction with Farmer's reducer, are both beneficial in certain cases, as is the use of the latter followed by the former in others; but personal attention in the matter of development is better, but requires practice and familiarity with the appearance of the plate in developing. N. B.—The plate should be kept in perfect darkness for the first half-minute of development, if possible; and for reversal I prefer the bichromate solution to the permanganate.—Sidney Herbert Carr, in *British Journal of Photography*.

Telephotography With Infra-Red Rays

The cause of the various and beautiful colors which the sky and clouds may assume was but little understood a few years ago, and even when Lord Rayleigh showed that the scattering of light by gaseous molecules was the greatest when the wave-length of light was the smallest, he probably did not realize at once that he had found a satisfactory explanation for all the colors, whether blue, green, yellow, or red, which can be observed in the sky, from midday till after sunset.

Ultra-violet, violet, and blue are, in the order in which they are named, the radiators which are most scattered when solar light passes through a thick layer of air. Ultra-violet is invisible and the remnant mixture of violet and blue appears to us as blue, owing to the fact that blue acts more powerfully on our retina than violet does. Such is the cause of the blue color of the sky. The atmosphere acts as a ray filter, which scatters in many directions most of the ultra-violet, violet, and blue, and allows the passing of most of the yellow, red, and infra-red.

If, some time before sunset, an observer turns his back to the sun and holds vertically above his eyes a sheet of white paper, in such a way as to have the direct rays of the sun fall upon the paper, while he sees both the blue sky and the paper side by side, he has an opportunity to compare the color of the ray filter with that of the filtered rays, i. e., the color of the light scattered by the atmosphere with that of the light which has passed through it and which is reflected by the paper. Even at noon, in June, in the northern hemisphere, when the atmospheric ray-filter is as thin as it may be for a given altitude, the paper is tinged with a yellowish hue. Painters are aware of that fact, and, as a rule, exaggerate the yellowish effect when they wish to brush a sunny spot.

White light which has lost some of its blue and violet components appears as yellow. If, however, it has lost not only the ultra-violet, violet and blue, but also part of the green—that is to say, part of the wave-lengths which come next to the blue in the list of colors arranged by order of decreasing wave-length, red as well as yellow predominates in it and gives it an orange or even reddish hue. Such a phenomenon occurs at sunrise and sunset, when the sun is near the horizon and when, owing to the great obliquity of its rays, the thicker atmospheric filter has begun to scatter a notable proportion of the green radiations. Such a thick layer of air remains fairly transparent, then, only for the less refrangible wave-lengths: orange, red, and infra-red. High clouds, when illuminated by rays thus filtered, take beautiful orange and red colors.

Occasionally, long after sunset, when general darkness has come, in atmospheric conditions the nature of which has not yet been made quite clear, a corner of the western sky will be seen to assume a deep ruby color which the physicist who has somewhat dabbled into spectral studies will readily recognize as the extreme spectral red. Sunlight, in such circumstances, has traveled through a maximum thickness of air. It probably illuminates tenuous dust particles which stand far above the clouds, with a light in which only the greater wave-lengths, extreme red and infra-red, have been left; a light which the eye could not perceive were it not for the fact that everything else has been submerged into darkness. It would be extremely interesting, when such phenomenon

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occurs, to take a photograph of the western sky with a plate sensitive to the infra-red, some time after the vanishing of the very last glow of visible light. That an impression would be made on the plate is probable, as the invisible infra-red radiations will still pass through an atmospheric layer of such a thickness as to intercept every other radiation.

This curious property of infra-red light suggests its application to telephotography. If the eye could be made, even temporarily, sensitive to the infra-red, the same property would find a ready application to the television, as one of the greatest obstacles to a clear vision of far-away terrestrial objects through a powerful telescope is the blue haze which wraps and partially hides everything. Telephotography with infra-red light was attempted for the first time by us in 1912, with Professor Wood's filter. The results, which have been published elsewhere, were encouraging enough, but the length of exposure (from fifteen to twenty minutes for a sunny landscape, with the greatest lens aperture) forbade many applications. As the sensitiveness of ordinary plates comes to an end with any wave-length longer than that corresponding to the green, special plates, manufactured by Wratten and Wainwright, were used for those early attempts. These plates, expressly made for spectral studies, are somewhat sensitive to the infra-red, but only as far as wave-length 8,000 A. U., owing to the fact that the main object of their makers is sensitiveness, not so much to extremely long wave radiations as to every visible radiation.

During several attempts to carry this sensitiveness farther on the infra-red side of the spectrum, the writers used most of the dyes which have been recommended as good sensitizers for the red, namely: cyanin, dicyanin, chlorophyl, alizarin blue S. They found in the last named of these dyes a sensitizing agent which, when used in combination with silver nitrate, besides allowing them to reach a region of the spectrum which was probably terra incognita for the photographers, reduces the exposure to some two minutes, for a sunny landscape, with diaphragm one-eighth. Such plates are easily sensitized, and yield constant results, but must be dyed by the experimenter himself, as they begin to lose their remarkable optical properties a few hours after being sensitized.

Photographs of mountain ranges some eight to fifteen miles from the city of San José, Costa Rica, give an idea of the wonderful clearness of vision which would be bestowed upon our retina with the gift of sensitiveness to infra-red light. In photographs made with about the shortest wave-lengths (3,160 to 3,260 A. U.) found in sunlight at sea level, the mountain range has all but vanished. If ultra-violet wave-length 2,118 A. U. were contained in sunlight in the lower regions of the atmosphere, and could be filtered out of it for photographic purposes, only such objects as would stand at less than thirty-three feet from the objective would appear on the photograph, as a layer of air but ten meters thick is completely opaque to such radiations. In the neighborhood of 1,842 A. U. even a layer of air one meter thick will stop such ultra-violet light.

When sensitizing plates for infra-red light, the experimenter will get excellent and steady results from the use of the following bath, the volume of which is for a 5x7 plate:

Alcohol, 50 per cent.....	200 c.c.s.
Ammonia	4 c.c.s.
Alizarin blue S.....	0.04 gm.
Silver nitrate solution, 10 per cent	5 drops

All of these chemicals are placed in separate vials. When it is desired to sensitize the plate, the ammonia and the alizarin blue are introduced into the alcohol; the flask is stoppered and agitated for about five minutes, to favor the dissolution of the dye. The solution is then filtered into a flask which contains the five drops of the silver nitrate solution. The liquid is moved again and poured over the plate into a 5x7-inch dish, which is rocked while the bath acts during exactly three minutes. The plate is then washed for three minutes in running water. After the back has been wiped dry with blotting paper, it is laid vertically in a light-proof box, the bottom of which is covered with a layer of blotting paper, and which contains a dish full of fused calcium chloride. About one hour later it may be placed in the plate holder.

From the filtration of the bath until the placing of the plate in the plate holder, every operation must be done in complete darkness or with the help of a very faint green light of the proper kind—i. e., made expressly for plates sensitive to the red and beginning of the infra-red.—G. Michaud and J. F. Tristan, in *Scientific American*.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Potassium Citrate

Our Ohio correspondent is advised that potassium citrate can be easily made by dissolving, in water, three hundred and ten grains of citric acid (for every ounce apothecary's wanted) and then adding potassium carbonate until the solution is neutral. The solution can then be made up to the required amount to give a solution of the desired strength by adding more water.

Projecting Lens Not Suited

A correspondent in Ohio has been trying to do enlarging with the lens from a projector and cannot secure sharpness. The reason is that the lens is not corrected for photographic work; that is, the chemical and visual focus do not correspond. He could, perhaps, find out the necessary variation and allow therefor, but so doing would hardly pay. A photographic lens had best be used, and our correspondent is perhaps unaware that he can hardly do better than use the lens with which his negatives were made for enlarging therefrom.

Those Transparent Water Colors

About this time of the year, the trees and shrubs are taking on new leaf, and doing so, present some interesting contrasts of color that are less distinct as the season advances. Any worker will be able to find compositions in which not only the arrangement of the parts but these varying shades of green help to make a pleasing whole. Prints from negatives of these furnish excellent subjects for coloring with those simple transparent water colors that the dealers are all carrying at such a low price. The worker will find that coloring such subjects gives the most satisfactory results, as the different shades make for variety that is more pleasing than the sharp contrasting of strong colors in subjects of a different kind.

Drying Marks on Negatives

A caller at our office last week advised, when the matter of a defective print came

up, that he had secured good prints from negatives defaced by drying marks due to water being splashed on the dry emulsion by redeveloping the plate. The dry negative is first bleached in a bath made up by adding ten grains of both potassium ferricyanide and potassium bromide to ten ounces of water, then washing and then redeveloping with an amidol developer. It is quite likely that this might give good results on the negatives of one worker and fail on those of another, according as the original development of the negative was conducted, but it is worthy of a trial. Drying marks, that is, areas of different density in the same negative due to uneven drying, are generally supposed to be hopeless defects and any treatment promising to cure trouble should have consideration.

Time of Fixing

One of our readers writes to ask if there is any difference in the time required for fixing plates and paper prints. The latter fix quite a little sooner than the former for the reason that the emulsion is thinner and because the fixing bath reaches the emulsion from both sides as soon as it penetrates the paper. However, it is well to overlook this more rapid fixation for the reason that it is such only under ideal conditions, or rather, when there is no danger of two prints coming together in contact during some portion of the time devoted to fixing. With perfect separation of the prints the fixing is more rapid than in the case of plates, but were plates washed in the same careless manner that prints are sometimes treated, there would rarely be one turned out that was completely and fully fixed.

The Collotype Process

A correspondent in Ohio asks concerning the difficulties attending the production of collotype prints, and as to books on the subject. We know of only one book published within recent years and that is now out of

print. There is on the English market an emulsion sold for the purpose under the trade name of the Sinop process. The real difficulty lies in maintaining the proper atmospheric condition as to moisture so as to secure the right absorption of ink by the soft gelatine surface from which the printing is done. We ourselves have made quite passable prints using the emulsion of an ordinary dry plate, lithographic ink applied with a lithographers' leather-covered roller, and making the impressions with an ordinary press such as photoengravers use for making proofs. However, inability to control the humidity of the air in which the work was done made the results rather uncertain at times. Our correspondent can no doubt secure information as to working the process and the supplies necessary by addressing A. W. Penrose & Company, Limited, Farington Road, London, E. C., England.

Those Unsatisfactory Portraits

The average individual fails to get a good portrait as a result of his visit to the average professional for one of two reasons: either too much time is expended in arranging the pose, the lighting and a few other things and he becomes greatly bored before the actual exposure is made, or else the photographer rushes to the other extreme and with his fast plate and quick lens makes a number of exposures before the sitter really gets settled into his every-day expression. It is obvious that the photographer would have nothing to gain by doing as did Sir Joshua, insisting upon dining with his subject before beginning the portrait in order that he could become acquainted with the varying expressions and decide upon the most characteristic one. The painter really makes a portrait that is a composite of a number of more or less fleeting expressions. Did the photographer attempt to do the same, he would secure only a blurred effect. He must content himself with the securing of several separate transient expressions in the hope that one may be caught that is characteristic enough to meet with the approval of the customer and his friends.

Brilliant Surface Carbons

An Illinois reader asks us concerning the production of some carbon prints, made many, many years ago in England, that have a very glossy surface with beautifully transparent shadows. These are evidently "Lambert-types," and were made according to the fol-

lowing directions given in the 1908 edition of "The Photographic Annual." Plate glass is thoroughly cleaned, dried, rubbed and polished with:

Pure beeswax	5 grains
Benzol	1 ounce

Set aside for the benzol to evaporate. Coated with:

Pyroxyline (or celloidin).....	100 grains
Ether	10 ounces
Alcohol	6 ounces
Castor oil	10 drops

Allow to set. Wash in a gently flowing stream of cold water until all greasy appearance is lost. The printed tissue is now soaked, squeegeed, stripped and developed in the usual way. After washing, the final support is brought in contact, under water, with the print. The two are allowed to dry spontaneously, and when quite dry the collodion-supported image is detached from the glass, yielding a print with a very glossy surface and transparent shadows.

Johnnie's Slate

Looking over some old cards that had come to hand last year, I ran across a series sent me from time to time by a friend who was with his family on a six weeks' camping trip last summer. With his equipment he had carried an ordinary, old-fashioned school slate and a supply of white crayons. As time permitted, this slate was decorated with crude sketches and notes, supposedly the work of the youngest male member of the party, and then photographed, the results going out to friends in the form of post cards. We would like to reproduce a few of these interesting cards, but, owing to the scarcity of water, the washing was slighted and they are badly stained with yellow blotches. However, the idea is not a bad one and it is one that is applicable to other situations than that under which these particular cards were sent out. Cards made from "copy" prepared in this simple manner could be used for a variety of purposes. This reminds me of another simple method of producing a number of announcement or like cards by photograph, photography of a quite simple and inexpensive kind. For a few cents one can obtain a sheet of thin celluloid with a fine matt surface on one side. On this the wording is penciled and then used as a negative for printing the desired number of post cards. The ordinary tracing paper of the draftsman is even better, as it permits the use of pen and ink.

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NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality, a letter "X" will be placed after the member's number, indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

George E. Moulthrop, Director Lantern Slide Division, Bristol, Conn.

Edward B. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—A. E. Davies, 2954 Linden Ave., Berkeley.

Idaho—Eugene Clifford, Weippe.

Kansas—H. H. Gill, Hays City.

Missouri—J. F. Peters, Room 210, Union Station, St. Louis.

New York—Louis R. Murray, 21 Clark St., Ogdensburg.

Oregon—F. L. Derby, La Fayette.

Texas—Emmett L. Lovett, Roby.

Wisconsin—F. W. Freitag, 500 Monument Square, Racine.

Mississippi—George W. Askew, Jr., 211 34th Ave., Meridian.

NEW MEMBERS

4050—J. Roland Lower, New Bethlehem, Pa.
Class 2.

4051—H. J. Kohls, Norwood, Minn.
Class 2.

4052—Myron Sherman, P. O. Box 461, Fowler, Cal.

2¼x3¼, developing papers, of scenes in the country and town; for scenery either country or city. Class 1.

4053—Lyle A. Dickey, P. O. Box 87, Lihue, Hawaii, T. H.
Class 2.

4054—Fred E. Taylor, R. F. D. No. 1, Carson, Iowa.

3¼x5½, developing papers, of farm scenes, stock, etc., also views of small streams; for

Western scenes, marine, and views of machinery. Post cards only desired. Class 1.

4055—George Engelson, Lock Box 301, Pomeroy, Wash.

3¼x5½, 4x5, 4x6, and 5x7, various papers, of general views, brook scenes, mountain views, etc.; for mountain views, sea shore, and general views of all sorts. Class 1.

4056—C. W. Parker, Mapleton, Iowa.

4x6, developing paper, of portraits; for the same. Portraits only. Class 1.

4057—John H. Kintz, 548 Sherman St., Marion, Ind.

3¼x5½ and enlargements, developing papers, of landscapes, and pictures of interest; for the same. No post cards. Class 1.

4058—George J. Hartl, 1929 South 56th Court, Cicero, Ill.

Class 3.

4059—Dr. H. W. Howver, Mansfield, Ill.

Class 2.

4060—W. S. Chinn, Plover, Iowa.

Class 2.

4061—J. Herbert Gailey, Georgia School of Technology, Atlanta, Ga.

Class 3.

4062—Page Laurence, 830 Foster Bldg., Denver, Colo.

1½x2¾ and enlargements to any size, developing papers, of mountain scenery; for anything of general interest. Class 1.

4063—H. M. Noblett, R. F. D. No. 7, Jefferson, Iowa.

Class 2.

4064—M. Kawamura, Box 2210 B Station, care Yokohama Specie Bank, Ltd., San Francisco, Cal.

3¼x5½ and 4x5, various papers, of general landscapes, and artistic views; for the same. Class 1.

4065—A. E. Ferte, Box 528, London, Canada.

3¼x4¼, developing papers, of views, interiors, figures draped and undraped, also miscellaneous; for the same. Class 1.

4066—Mrs. C. W. Kelley, Devils Lake, N. D.
Class 3.

4067—C. W. Welty, Pandora, Ohio.

3¼x5½, glossy paper, of children, machinery, scenery, landscapes, and animals; for the same. Class 1.

4068—A. L. Dregseth, Lock Box 45, Baltic, S. D.

Class 2.

4069—W. E. Fowler, Box 169, Goliad, Texas.

5x7 and enlargements, various papers, of general views; for the same. 5x7 enlargements preferred, good work only. Class 1.

4070—J. L. Glenn, R. F. D. No. 3, Denison, Texas.

3¼x4¼ and 3¼x5½, developing papers, of Colorado scenes, college life, and miscellaneous views. I prefer marine and artistic views, but appreciate any good picture. Class 1.

4071—Arthur J. Thompson, 747 So. Los Robles, Pasadena, Cal.

Class 2.

4072—Alex Frechette, R. F. D. No. 2, Fowler, Ind.

Class 3.

4073—Herman Renskers, Amoy, China.

Class 3.

4074—H. A. Higgins, 1207 3d Corso, Nebraska City, Neb.

3¼x5½, printing-out paper, of general views; for the same. Class 1.

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- 4075—Perry Shaw, 4304 Bonita, Berkeley, Cal.
2¼x4¼ and up, various papers, of city and country views and the like; for anything of interest. Class 1.
- 4076—R. O. Robinson, Box 501, Clovis, N. M.
Various sizes, developing papers, of miscellaneous views and portraits; for miscellaneous. Class 1.
- 4077—Amil F. Larson, R. F. D. No. 1, Box 68, Manfred, N. D.
¾x5½, various papers, of portraits, and farm scenes; for landscapes. Post cards only. Class 1.
- 4078—L. L. Guibord, 40 Paul Revere Road, Arlington Heights, Mass.
Class 2.
- 4079—J. W. Thornton, 410 Berry Ave., Bellevue, Ky.
Class 2.
- 4080—A. T. Moss, Hyampom, Cal.
Class 3.
- 4081—R. R. Reed, Box 15, McDermott, Ohio.
Class 2.
- RENEWALS
- 1840—Thos. C. Barbour, Box No. 212, Gonzales, Tex.
Class 3.
- 2479—Mrs. Lois E. Gundelach, Huntington, Ore.
Class 2.
- 3090—J. E. Baxendale, care L. A. A. Power Plant, Lone Pine, Cal.
¾x5½ and 4x5, prints or post cards, of marine, naval, and beach scenes, desert, and mountain views, particularly Sierra Nevada near Mt. Whitney; for marine, figure studies or miscellaneous. Would be very glad to exchange with officers or enlisted men in army or navy. Good work and prompt exchange. Class 1.
- 3300—Clyde Merritt, R. F. D. No. 3, McCune, Kan.
¾x5½, developing papers, of landscapes, miscellaneous, and country scenes; for anything of interest. Prints or post cards—no portraits. Class 1.
- 3325X—Mrs. Ida M. Bard, Arcadia, Tex.
Post cards, various papers, of birds, nests, portraits, flowers, views, animals, and various other things; for anything of general

- interest, most any subject, but want good work. Also foreign exchange invited. Class 1.
- 3329—George R. Bunn, 1571 W. First St., Los Angeles, Cal.
¾x5½, different developing papers, no post cards, of a wide range of Yosemite and other national parks, and wild mountain scenery, marines, general, and a few nude or semi-nude figure studies; for artistic scenery, genre, speed, humorous or figure studies. No buildings, monuments, or street scenes. Subject to approval both ways. Good work only sent or desired. Class 1.
- 3652—Hilbert Anderson, 1227 Washington St., N. E., Minneapolis, Minn.
4x5 and smaller, developing papers, of views, home portraiture, and flashlights; for the same. Class 1.
- 3860—E. A. Kliese, 318 Elder, Council Bluffs, Iowa
¾x4¼ and 4x5, developing and printing-out papers, of views mostly; for views and street scenes. Class 1.
- 3867—M. T. Stradford, Box 223, Birmingham, Ala.
Exchanges for purposes of sociability and companionship. Class 1.
- 3891—Clifford S. Bastla, 109 King St., London, Ont., Canada.
¾x4¼, 4x5, 5x7, developing papers, of animals, types of people, children, pretty girls, bathing girls, circus animals, marines, military types and scenes, views of principal cities of the United States and Canada. I also offer for exchange original 4¼x6½ nude, semi-nude and draped figure studies. I collect all kinds and classes of pictures and I always answer all exchanges sent me. Class 1.
- CHANGES OF ADDRESS
- 2486—Arthur P. Barnes, Box 468, Duluth, Minn.
(Was 31st Ave. East and 2d St.)
- 3545—Mrs. Ina L. Cook, 237 Griffith Ave., San Mateo, Cal.
(Was Menlo Park, Cal.)
- 3967—Julia Morrison, 543 Nehalem Ave., Portland, Ore.
(Was 1400 E. Irving St.)
- 4058—George J. Hartl, 1922 South 57th Ave., Cicero, Ill.
(Was 1929 South 56th Ave.)

OUR BOOK SHELVES

"In the Land of the Head Hunters"

This, Mr. Curtis' latest book, is based on a legend of the Indian tribes whose original habitat was the Vancouver region, where the action takes place. The tale begins with the vigil of Motana, the young chief, undertaken to win supernatural power; then follow his wooing and winning of Naida, the plots of the wicked sorcerer, and war chief Yaklus, the raid on Motana's village, the capture of Naida, her rescue by Motana, and the final overthrow of Yaklus. The story is told in the style of the tribal bards and has the swiftness of movement, the elemental directness, and the stark simplicity of the true epic. The thirty halftone illustrations are from Mr. Curtis' motion picture film based on the same story, which is now being shown throughout the country. They are beautiful

examples of the art of both photographer and engraver. Published by World Book Company, Yonkers-on-Hudson, New York. Price, boxed and postpaid, one dollar and twenty cents.

"Flashlight Photography"

The above is the title of the last issue, No. 135, of *The Photo Miniature*. With the growing popularity of flashlight work, any information published on the subject is most timely, and we can assure our readers that this particular issue of this popular series of handbooks is no exception to the usual instructive and informative character that previous issues have maintained. The reader is told exactly what is meant by flashlight photography and is given a clear insight into its possibilities, both for the amateur and the professional. It is filled with practical infor-

CLUB NEWS AND NOTES

mation and full description of the working methods, so that any one giving it careful reading will possess a fund of knowledge that will be most helpful should he essay this branch of photographic work. While these

booklets can be purchased from practically every dealer, the reader who fails to find it on sale can secure it direct by remitting twenty-five cents to the publishers, Tennant and Ward, 103 Park Avenue, New York City.



CLUB NEWS AND NOTES

St. Louis Camera Club

This progressive club announces a photographic exhibit in the art rooms of the Central Public Library Building in its city, from April eighth to May eighth. On the opening evening there was an interesting lecture, entitled "St. Louis and Vicinity with a Camera," illustrated with lantern slides by members of the club, in the assembly room at the library building. Two weeks later, or April twenty-second, another lantern-slide exhibition was held in the same room, this also consisting of the work of the club's members. The public were invited and the club's president, Oscar C. Kuehn, of 3405 Caroline Street, advises that while this is the first annual exhibit held by the club, the pictures contributed therefor are of sufficient number and of such quality that the visitor will not be disappointed therein.

A Photographic Function

On the evening of April third last, Spencer Kellogg, Jr., the well-known camera enthusiast of Buffalo, New York, entertained his many friends at his home on Lincoln Parkway. Invitations were sent out announcing that Clarence H. White, of the White School of Photography, New York City, would speak informally of his many interesting experiences and also discuss the great value of the camera as an important adjunct to the study of fine arts. The response to Mr. Kellogg's invitation was most gratifying to both Mr. White and the host, while Mr. White's remarks were greatly appreciated by his hearers. The gathering, while practically a social function, was rather unique in being so distinctly photographic, but its success from every point of view was such that others should be inspired to repeat the experiment as opportunity makes so doing possible.

Country Life Prize Winners

The jury of award has passed upon the pictures in the Second Amateur Prize Photo-

graphic Contest open to amateurs throughout the country by the Country Life Permanent Exposition in the Grand Central Terminal, New York City. The first prize was awarded to Paul Andrus Brooks, Minneapolis, for his "Clear and Cool"; second prize, Alexander Murray, Roslindale, Massachusetts, for "Having a Picnic," and third prize, Sylvester B. Phillips, Portland, Maine, for "A Bit of Shore." Honorable mention was awarded Leslie H. Cushman, Bronxville, New York, for "A Western Lane," and Alexander Murray, Roslindale, Massachusetts, for his two, "A Bonnie Wee House in Scotland" and "Old T. Wharf and New Customs House Tower—Boston."

Second Annual Pittsburg Salon

The catalogue of the Second Annual Pittsburg Salon of National Photographic Art, held by the Photographic Section of the Academy of Science and Art of Pittsburg, in Galleries L and M of the Carnegie Institute, March first to thirty-first, is just at hand. The exhibition consists of three hundred and seventeen carefully selected pictures, the major portion of which are collective exhibits from the leading pictorial photographic organizations of this country. There are some eighteen individual exhibitors, eight of whom are located in Los Angeles and two others from the Pacific Coast. Judging from the names listed in the catalogue, the exhibition must be an exceptionally fine one, and we trust to be able to obtain a review of it for our pages a little later. The officers of the Photographic Section of the Pittsburg Academy are to be congratulated upon the results of their efforts and they deserve all praise for their work in getting together such a representative collection, a work that is not as often undertaken as should be the case if the public are to be made familiar with the possibilities of pictorial photography.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

The Montreal Camera Club

The M. A. A. Camera Club, of Montreal, held its Ninth Annual Exhibition from March twenty-ninth to April third, in the club rooms, 250 Peel Street. Exhibits were received from many parts of Canada and the United States, and also from Great Britain. The high standard of work shown ranked the exhibition as being the best and most interesting in the club's history. Messrs. William Brymner, president of the Royal Canadian Academy, Walter Mackenzie and Sidney Carter again acted as judges.

The pictures were divided into four classes: Figure Studies, Landscapes, Waterscapes, and Genre, a silver and a bronze plaque being awarded in each class. The silver plaques in the respective classes went to George Alexander, B. J. Morris, C. Macnamara and C. W. Christiansen, and bronze ones to B. J. Morris, C. W. Christiansen, C. Adkin and William A. Guyton.

In Class A, C. G. Ashley received honorable mention; B. B. Pinkerton, G. H. Kahn and B. F. Langland did the same in Class B, while William A. Guyton was honored in like manner in Class D.

New Ingento Cameras

The Ingento Junior Camera, in the three popular sizes, is the latest line to be introduced by Burke & James, being now ready for the market. One can see, from an examination of the page advertisement elsewhere in this issue, that this camera is made to open vertically, that it is handsomely designed with full round corners and is fitted with lens in automatic shutter with flexible wire release. Best of all, the price is a most modest one, one that should tempt any camera user to look into the merits of this new line. As thousands have been placed with dealers during the few weeks since the first models were sent out, many of our readers will be able to find one of them on their dealers' shelves. However, all dealers can get them and descriptive circulars are gladly

sent by the manufacturers, Burke & James, Incorporated, 240-246 East Ontario Street, Chicago.

The Illinois College of Photography

Charles D. Gallagher, of Ely, Nevada, one of our students in 1904 and later superintendent at the college, has recently been elected to the Legislature of his State.

Herbert Salzgeber, grandson of "Papa" Hammer, the venerable and well-known head of the Hammer Dry Plate Company, of St. Louis, has enrolled at the college for a thorough course in photography preparatory to going into the service of the company, of which his father is the general manager.

We are pleased to note that the January issue of *Studio Light*, the official magazine of the Eastman Kodak Company, was illustrated by work from one of our former students, Theo. Ragu, of 1898, and also that the January issue of *Portrait*, the magazine issued by the Ansco Company, was illustrated by work from another of our students, Mrs. Helen Frances, of 1902.

Make Some Money

The Haloid Company, 6 Haloid Square, Rochester, New York, want some negatives from which to make sample prints showing the quality of their paper, and they are willing to pay for such as they can use. Here is a good chance to make some money and our readers will do well to look over their stock and pick out such as are good quality, free from defects and fairly interesting, and send along either a print from each or the negatives themselves, not forgetting to state definitely just what price is demanded. See their advertisement on another page.

National Convention News

Dr. T. W. Smillie, chief of the photographic department of the National Museum, has prepared an illustrated lecture covering the wonderful collection under his charge, and this will be delivered by Charles L. Lewis, of Toledo, at the coming National Convention

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at Indianapolis. The specimens in the museum cover the development of photography from the time of the camera obscura first used by Euclid in 300 B. C., to the latest Autographic Kodak, and this lecture, with its illustrations, should prove most interesting and instructive.

A Reply to Mr. Douglass

"DEAR MR. CLUTE:

"In the February issue, page 87, an old subscriber of yours, Benjamin W. Douglass, takes me to task for a statement, in my article in the December number, denying the ability of photography to teach us the intricacies of design, composition and subordination.

"If Mr. Douglass will take the time and trouble to turn over the pages of the back numbers of the various art and photographic magazines, my views, he will find, are supported by a very solid base of authority. Mr. Douglass' sincerity is most commendable; he admits he never received any art training, and this is to be regretted, as, no doubt, it would have added a joy to his life and given more value to his opinions upon subjects pertaining to art, as well as adding power to his natural abilities.

"Six months' study of the antique under a competent instructor would be worth more than a ton of some miscalled elementary art courses. Under a proper system of instruction, the whole noble vista of design would be opened out, showing the world's great master creations. It is to these great objects that serious students turn for their instruction and inspiration. Were some great diploma, medal or trophy to be modeled or draughted, how could a photographer as a photographer accomplish the task? He might have the artistic instincts, but if he had not developed them by the acknowledged methods, his work would not survive the tests, would not measure up to the standards.

"May I tell Mr. Douglass that I have attended photographic salons innumerable, and have seen the finest photographic work of three continents, as well as many of the world's greatest art creations from Phedies and Angelo to the best of the moderns, and have reveled in pictures and photographs ever since I can remember. The smell of collodion or that of painters' tubes is as sweet to me as the breath of spring flowers.

"We are under many deep obligations to

photography. Let us be gracious and recognize its limits, greet it with joy, admiration and thankfulness, and yet oppose every false movement to drag it out of its true position.

(Signed) "CLAUD H. SIMSON.

"March 9, 1915."

A Photographic Exhibit

Photography is to play an important part in a spectacular exhibit of the wild life the Conservation Commission of Louisiana is to make at the Panama-Pacific International Exposition at San Francisco. Not only will photography be the medium used to show the great variety of wild game and other life of the Pelican State, but it will be the method relied upon to explain to sportsmen and bird life champions the successful and modern methods of conservation practiced by the commission.

While there will be a motion picture display of the creatures of the wild found throughout Louisiana, President M. L. Alexander and Commissioners J. A. Dayries and E. T. Leche have decided that straight photography will permit a better examination of the conditions now existing and the walls of the booth given over to the exhibit will be lined with bromide enlargements from a series of wild game negatives taken by Stanley Clisby Arthur, the ornithologist of the commission.

The most interesting exhibit, however, will be a series of panoramic scenes of groups and actual specimens, similar to the habitat groups in the American Museum of Natural History in New York. The difference to be seen in the Louisiana display at San Francisco will be that photographic backgrounds will be blended into the groups so constructed. Thus the group showing the actual conditions on the vast State Game Preserve, consisting of over three hundred thousand acres along the Gulf of Mexico, will be reproduced with absolute fidelity to the actual marsh lands. The Conservation Commissioners believe that this will be the first time photography has been so applied to this kind of an exhibit.

Mr. Arthur, who has secured during the past year hundreds of interesting photographs of the natural resources of the State that are protected by the Conservation Commission, is now in the wilds of the preserves with a complete photographic equipment to record the millions of ducks and geese that seek refuge there from the market hunters' guns,

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and with him is the taxidermist of the State museum, who will mount the specimens that will be secured for the exhibit. Telephotography will be used both on the regular cameras and on the motion picture machine to secure the pictures desired.

A New Imperial Plate

The new Duonon plate combines with the well-known excellence of Imperial products some distinctive features that cannot but make it extremely popular with all classes of photographers. In the manufacture of this plate, the Imperial Dry Plate Company have incorporated, as a result of years of effort in this direction, several features heretofore considered as not capable of being successfully achieved in one plate. This new plate is double coated and therefore non-halation; but in addition it has an exceptionally fine grain, while being color sensitive to such a degree that no color filter is required, this last meaning much to the worker who finds the use of his color-correct plates too often made impossible by the long exposure necessitated by a color screen. These new plates are now being distributed to the trade and your dealer should have them in stock by the time this reaches the eyes of our readers, but if not, an inquiry addressed to the American distributors, G. Gennert, New York, Chicago or San Francisco, will bring information concerning them and where they can be obtained.

A Book About a Lens

Practically unknown to all except a favored few, one of those sincere enthusiasts who do so much to encourage the advancement of every art and every science has been making special lenses, both single ones and doublets, for workers in pictorial photography. Recently this gentleman decided to extend the field of his activities in the direction of lens making, and the offering of the Strauss Pictorial Lens to those photographers desiring an instrument specially designed for pictorial work is the result. This lens is not the outcome of a hasty determination to commercialize something different in the line of a photographic utility. It is the result of several years of study and effort, backed up by the experience gained in filling the requirements of exacting pictorial workers for whom lenses have been made. Mr. Strauss is himself an artist in the illustrating field and therefore all the more able to realize the

requirements of the artist photographer. He has compiled an illustrated booklet that gives a good idea of the variety of the results obtained with the lens and information and suggestions along the line of pictorial work that are most interesting. As this is too expensive a piece of literature to be sent out freely, a charge of twenty-five cents is made, this amount being refunded upon purchase of a lens. Write for Booklet D, enclose twenty-five cents and address Karl Strauss, 5 West Thirty-first Street, New York.

An Important Amalgamation

Four State associations, namely the Missouri, Iowa, Nebraska and Kansas ones, have been brought together into one that will be known as the Missouri Valley Photographers' Association, that will hold one big convention, a convention that we promise you will be a hummer. We will spare no expense to make this, the first coming together, one long to be remembered. We have selected Kansas City as the meeting place, Convention Hall our quarters, ample floor space for all, September seventh, eighth, ninth and tenth the dates. We expect fifty manufacturers to be represented there and we are now at work on the floor plan and "Year Book Schedule" which will soon be completed ready for mailing. Our reason for making this advance announcement is that you will know we are in the field bigger and better than ever and that manufacturers and dealers may have sufficient time to fully prepare for the occasion when it presents itself.

L. S. KUCKER, Secretary,
Springfield, Missouri.

New Cooper Hewitt Catalogue

We have just received from the Cooper Hewitt Electric Company, Eighth and Grand Streets, Hoboken, New Jersey, a copy of their bulletin No. 58, which takes the form of an illustrated catalogue of the various Cooper Hewitt lamps suitable for all photographic purposes. This bulletin is most generously illustrated, both with reproductions of work done with the various lamps and with illustrations of the lamps themselves. The text is most instructive and informative, dealing with the general use of this ideal photographic light, its use in portraiture, post card work, commercial photography, motion picture work, and the several forms of printing, including enlarging, lantern slides and the making of blue prints. This bulletin will

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be sent on request made by any of our readers, and as a source of information and instruction on this form of photographic illumination that is so rapidly becoming popular, it should not be overlooked by any.

An Artistic Collection

The *Albany (Oregon) Democrat*, in a recent issue, gives special attention to a collection of artistic photographs of coast scenery on display at the public library in that city. These pictures are the work of A. L. Thomas, a photographer of exceptional artistic perception and skillful workmanship. Mr. Thomas is a business man of Newport, Oregon, and has devoted his spare time to the possibilities afforded by the rugged Oregon coast, and in doing so has secured a noteworthy collection of very fine photographic studies that have attracted attention wherever shown.

New Ic Tessar Circular

The Bausch & Lomb Optical Company have issued a revised edition of the circular H-d on the Ic Tessar lenses for motion picture cameras. This circular is of particular interest to those who have tried to make large pictures of distant objects. The new rack and pinion mount which is illustrated takes lenses from two inches up to seven and one-fourth inches focus, giving various telephoto effects. A postal request directed to the Bausch & Lomb Optical Company, 624 St. Paul Street, Rochester, New York, will bring you a copy.

Popularizing Flashlight Work

The many new flashlight devices put out recently by the Prosch Company have done considerable to make this interesting form of photography a greater pleasure than ever. An entire set of new style blow lamps is now available, which are rapidly replacing the old models which were popular for so many years. For interiors where no motion is contained, a blow lamp is really the only way to make the flash, and wonderful effects can be produced by this slow light method. The new studio and home portrait outfit is being largely used throughout the entire country now, and with its many novel advantages, to say nothing of the very low cost, should soon take its place among this firm's other products as a universal outfit. A card addressed to Prosch Manufacturing Company, 20 East Nineteenth Street, New York City, will bring literature.

Cincinnati Photographers Association

The portrait and commercial photographers of Cincinnati have formed an organization to be known as the Photographers' Association of the Cincinnati Chamber of Commerce. The new organization will consider ways and means of advancing the photography business in Cincinnati and territory adjacent thereto. The following officers and Board of Chairmen were elected: President, R. E. Carl; Vice-President, William Schuster, and Corresponding Secretary, F. DeLisle. Board of Chairmen: Messrs. McLan, Groene, Bill, Jones and Schmitt; with H. Serkowich, Managing Secretary.

The Autochrome Supply

While the French Government decree of December twenty-first last prohibited the exportation from France of photographic materials, we have been advised that the Union Photographique Industrielle Etablissements Lumière et Jougla Reunis have been granted permission to export their products, which include Autochrome plates and all other products of the Lumière-Jougla factories. While there may be an occasional slight delay, owing to interruption of traffic or other causes, the American agents, the Lumière-Jougla Company, 75 Fifth Avenue, New York, believe they will be, as at present, fully able to take care of all orders for Autochrome plates and other products of their firm uninterruptedly as heretofore.

Ilex Shutters and Lenses

The new 1915 catalogue of Ilex shutters and lenses is one that should interest a large number of our readers and they should not delay in sending for a copy thereof. The Ilex anastigmat is an excellent instrument at a popular price, and the Ilex line of shutters embraces a number of models from which can be made a selection to suit the needs of both one's purse and one's photographic requirements. This line of shutters is remarkably free from usual shutter troubles, and their accuracy and efficiency are such as to recommend them very strongly. The new catalogue is sent cheerfully upon request by the firm, the Ilex Optical Company, 580 Ilex Circle, Rochester, New York.

Ralph Harris & Co.'s New Location

This firm announces the removal of its New York salesroom to 176 Fulton Street, where it will occupy the entire second floor. This location is very convenient, as it is only

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a few steps from Broadway, the Hudson Tube and the Subway Express Station. The salesroom is nearly three times larger than the one at the former location, so that a much larger stock can be carried to supply the trade of New York and vicinity. E. F. Keller, who is so well known by the photographic trade in New York, will retain the position of manager. Out-of-town visitors to New York are invited to visit this establishment, as the exhibit which attracted so much attention at the International Exposition of Photographic Arts and Industries held at Grand Central Palace in New York, will be shown in this office.

New Ensign Cameras

We are just in receipt of a handsome new list of the Ensign and Klito cameras, and find that the three and one-fourth inch and post card Ensign folded cameras are now supplied with Ensign anastigmat lenses, at the modest prices of twenty-two dollars and fifty cents and twenty-five dollars, respectively. This makes a combination that will appeal strongly to the amateur, and we would advise our readers to send for one of these lists, addressing the American agents, G. Gennert, 24-26 East Thirteenth Street, New York; 320 South Wabash Avenue, Chicago, or 682-684 Mission Street, San Francisco.

The firm are also distributing agents for the new Record plate, one of medium speed giving snappy results, a plate such as is most suitable for commercial and general photography, and one on which a liberal discount is given.

Goods Stolen

The attention of photo supply dealers and others is called to the following list of Voigtlander goods recently stolen from the office of Burke & James, Incorporated, 225 Fifth Avenue, New York. As each article bears a special number, identification should prove quite easy.

One pair of six power thirty-six millimeter Voigtlander & Sohn prism binoculars No. 24090. One $3\frac{1}{4}\times 4\frac{1}{4}$ Voigtlander & Sohn Model A Bergheil Tourist Camera, fitted with Heliar lens No. 124646 in Compound shutter. One $3\frac{1}{4}\times 5\frac{1}{2}$ Voigtlander & Sohn Model C Bergheil Tourist Camera, fitted with Radiar lens No. 130778 in Compound shutter. One $3\frac{1}{4}\times 4\frac{1}{4}$ Voigtlander & Sohn Alpine Camera, fitted with Series III No. 2 Collinear lens No. 121600 in Compound shutter. One

$3\frac{1}{4}\times 4\frac{1}{4}$ Voigtlander & Sohn Vida Reflex Camera, fitted with No. 3 Heliar lens No. 114432. One $3\frac{1}{4}\times 4\frac{1}{4}$ Voigtlander & Sohn Metal Folding Camera, fitted with Series III Collinear lens No. 84060. One $3\frac{1}{4}\times 4\frac{1}{4}$ Voigtlander & Sohn Metal Folding Camera, fitted with Series III Collinear lens No. 76453.

New Voigtlander Catalogue

The new 1915-1916 catalogue of Voigtlander lenses and cameras is being sent out; and, as usual, it contains much of interest to every photographer. There are many fine reproductions of excellent pictures, several pages are devoted to the judicious selection of a lens and explanations of the real meaning of many terms that are often misunderstood or their full photographic significance overlooked. Last but not least, the book contains full information concerning the very fine lenses and cameras manufactured by the Voigtlander house. Copies of this fine catalogue can be obtained by our readers, free of charge, by addressing Voigtlander & Sohn, 240-246 East Ontario Street, Chicago, or 225 Fifth Avenue, New York.

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(Signed) FAYETTE J. CLUTE, President.

Sworn to and subscribed before me this twenty-sixth day of March, 1915.

Sid J. Palmer, Notary Public, in and for the City and County of San Francisco, State of California. My commission expires December thirty-first, 1915.

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HOLLYHOCKS
By E. S. BLAKELY


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A PHOTOGRAPHIC MONTHLY**FAYETTE J. CLUTE, Editor****CALL BUILDING****SAN FRANCISCO****CALIFORNIA**

VOL. XXII**JUNE, 1915****No. 6**

Photographing Flowers**By E. S. Blakely**

With Illustrations by the Author

I remember reading an article some time ago wherein the writer told how he had photographed an eclipse of the moon, and he prefaced his remarks by saying that his camera had long lain idle because he had lost interest, having photographed everything else, until this eclipse came along, giving him something new upon which to try his skill. He must have been a wonderful worker to have so soon exhausted his camera possibilities. "Fatal facility" indeed!

I do not believe it is within the power of any person in an average lifetime, and using the camera as a pastime, to make a satisfactory photograph of each individual species and variety of the flowers native to one State. Most every one loves flowers, and it is the privilege of the camerist to preserve some of their beauty in pictorial form.

The beauty of a flower portrait is in the rendering of detail and texture. The painter may teach us something about space filling and beauty of form, but with a proper understanding of the handling of light, the camera may be made to tell a more complete story of a flower than all the painters together. Flower photography is not for the fuzzygrapher, but for the careful worker.

The work is best done indoors where the light can be controlled, and the room must be cool but not draughty. A basement or cellar is ideal if roomy enough, and is more likely to have the light higher up than the living rooms, besides avoiding vibration from others walking about. The light ought to fall on the subject at or near an angle of forty-five degrees, although a side light is much better than an overhead light, rendering the texture more fully. If the

sun shines directly in at the window, it should be diffused with cheese cloth, ground glass, or even Bon Ami will answer nicely. There should be room enough between the window and the wall to place the table, stand or other support upon which the subject is placed, for on no account must the subject be directly in front of the window, or harsh lighting results and it is then impossible to get detail on either the light or shadow side.

The subject is best placed six to eight feet from the window and a foot or two back from the farther side, so that by placing the camera opposite the window and a little further from it than the subject, say eight to ten feet, it is necessary to point the camera slightly facing the light, instead of exactly at right angles, the light playing across the edges of the flowers in such a way as to bring out the greatest possible amount of texture and the best modeling. More important than anything else in successful flower photography, either camera, lens, or plate, is the light; of course this may be said with equal truth of any other phase of photography, but is of the utmost importance in flower work.

The best camera for the purpose happens to be the cheapest, a long-bellows view. It should have a side swing as well as vertical swing back. I believe they are all being made that way now. Size should be not less than 5x7 and preferably not larger than 6½x8½, which will give a life-size picture of most subjects. Larger sizes will be found to be too expensive to furnish plates for, and smaller than 5x7 does not do justice to the subject.

The lens will need to be as large as possible. It need not be an anastigmat, although I have used no other; however, the usual necessity for using a small diaphragm stop will correct the astigmatism or other faults of the cheaper lens, so that a rapid rectilinear may give as good results as an anastigmat of equal focal length.

The position of camera and subject having been settled, we pay our respects to the background. If one has a clouded ground of the roll-up variety, the question is settled at once for all white flowers, and by the way, the beginner had best confine his efforts to the white ones; in fact, they are my favorites yet, because they look more natural in the photograph than colored ones, and natural color photography is not sufficiently advanced as yet to warrant the amateur attempting flower portraits by that process. Now we have arranged the subject; we have the light right, and have composed on the ground glass to our satisfaction; the next question is, What stop and what exposure?

If the arrangements have been carried out as suggested, and the light source is about a square yard with bright sun outside, a good guess would be stop f-32 and ten minutes' exposure, using a Cramer Instantaneous Isochromatic or any plate of similar speed. The plate should be some one of the orthochromatic variety, in order to give as good rendering to the green stems or foliage as possible. The exposure with other plates than the one mentioned may be reckoned according to their respective speeds as indicated by any of the numerous exposure tables.

It is always considered good practice, in any experimental work, to keep notes, and there is nothing better for our purpose than "Wellcome's Photographic Exposure Record," which, besides being ruled for all exposure data, contains a list of the various plates and films, and the relative speed of each. Referring to

PHOTOGRAPHING FLOWERS



COSMOS—September, 2 p. m. Zeiss Unar, f-22, ten minutes' exposure. Taken on glass. Light D.



GOLDEN GLOW—August, noon. Zeiss Unar, f-22, eight minutes' exposure. Light A.



BLACKBERRY BLOSSOMS—June 9 a. m. Zeiss Unar, f-32, six minutes' exposure. Light A.



PEONIES—June, 9 a. m. Zeiss Unar, f-32, eight minutes' exposure. Light A. Plant over 200 years old.

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my own notes, I find that all the subjects reproduced herewith were made on Cramer's Instantaneous Isochromatics except "Wood Lilies," which was made on a Slow Isochromatic.

It is a good plan to make at least two exposures on a subject, and preferably three or four, making some slight changes in the arrangement each time if thought advisable. This practice saves us many disappointments. The flowers may move, or there may possibly be a defect in the plate, and plates are cheaper after all than the flowers, whether you buy them, grow them, or get them from the woods or fields; and, too, time is some consideration. There are so many factors that enter into the work, any one of which may spell success or failure. Flies must be taboo, as well as bugs and bees; now please don't laugh, but they do put in an appearance very unexpectedly sometimes. They have an annoying habit of secreting themselves in the folds of the petals, and on the under side of the foliage, and they will cause movement in an otherwise steady bloom.

There should be some sort of an understanding with the other occupants of the house, by which they will exercise care in walking about. The careless slamming of a door in the house will often set the fragile flowers to vibrating so that the plate on development shows a blur instead of the clear-cut picture we have been working so hard to get; and this vibration may not be apparent to the eye either, unless one is looking at the subject on the ground glass, where it is evident enough. When the cap is removed, or the bulb pressed, sit down and on no account allow any one to move in the room until time is up.

There is always a strong temptation to use too many blooms in arranging the study; this tendency must be resisted and every effort directed toward simplicity. The more blooms used, the more complicated becomes the composition problem. Except in the case of quite small flowers, one, two or three blooms are about all that can be handled easily.

One bothersome feature in arranging the subject is to make them stay "put." I have tried pieces of lead, wet sand, glass specially made for the purpose with holes in it, but the one best bet is a pint or quart bottle of water, and after the group is arranged satisfactorily, crowd some pieces of newspaper in the space between the stems and the neck of the bottle. If it looks good to the eye, but not so on the ground glass, a raising or lowering of the camera will be less trying to the patience than rearranging the flowers, and more likely to get just what is wanted in the way of pleasing composition.

Great care must be taken to have the several blooms in the same plane as nearly as possible, for two reasons: to avoid the use of too small a stop, and to avoid distortion. One question in this particular bothered me for a long time; that is, how much depth of focus has a lens of eight and one-fourth inches focus on a life-size subject, using different stops. After trying to figure it out by a published formula and getting dizzy doing so, I set up twelve one-inch-square cards with good-sized numbers from one to twelve, one inch apart, and photographed it using different stops each time. I found that by getting No. 5 sharp with the lens wide open, 4, 5 and 6 were sharp at f-16; 3 to 7 inclusive with f-22, 2 to 8 with f-32, and 1 to 9 with f-45. So now I endeavor to confine the subject within the limit of a depth of six inches, less if possible, thereby short-

PHOTOGRAPHING FLOWERS



POPPIES—October, 9 a. m. Zeiss Unar, f-16, three minutes' exposure. Arranged on horizontal sheet of glass. Light A.



WOOD LILIES—July, 1 p. m. Rear half Dallmeyer, f-11, five minutes' exposure. Arranged in the fluting of a washing box. Light A.



DAISIES—August, 11 a. m. Zeiss Unar, f-16, one and one-half minutes' exposure. Light A.

ening the exposure by the use of the largest available stop consistent with sharpness of focus throughout.

There is another method of arranging flowers for photographing, using a horizontal glass, set on a frame in such a manner that the glass is some foot or so from the floor, so that card backgrounds can be placed on the floor underneath the glass. The camera is suspended from the tripod head with a tilting tripod



SWEET PEAS—July, noon. Zeiss Unar, f-32, ten minutes' exposure. Light A.



ROSES—June, 2 p. m. Zeiss Unar, f-32, five minutes' exposure. Light A.

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head so that the camera points downward. This method is especially useful in photographing such flowers as are so slender in stem that they simply will not or cannot stand erect without motion. In this class of subjects are violets, poppies of the common garden variety, nasturtiums, and a host of wild flowers.

Inasmuch as the arrangement in this case is all on one plane, it is obvious that quite a large stop can be used and the exposure be made proportionately short. Several problems, however, present themselves in this method of working. I have frequently seen the method advised, but have never seen any information telling how to overcome certain difficulties inseparable from the process to the person who is a beginner at the work. I shall therefore try to point out a few of the difficulties and how to overcome them.

First, the glass support reflects the image of the entire camera front. Remedy: Attach to the front of the camera a card with a hole in the center large enough to slip over the lens, the card to be as large as the background used. This will also shut out ceiling reflections, if any. Reflection of portions of the subject on the glass may be remedied by a lighter background, especially on the shadow side of the subject. Shadows cast on the background by the edge of the glass or its frame can be overcome by elevating the glass sufficient to avoid them.

Another difficulty lies in the flatness of image or poor modeling resulting from working in this way. This does not matter much in the case of colored flowers, which, by the way, introduces orthochromatics, and should be considered separately, but for white flowers is important. As a remedy, with the proper lighting in mind for vertical subjects, just imagine lying on your side, and you will see the necessity of placing the glass and subject to one side of the window and arranging the flowers so that top of the picture comes towards the light. It may be necessary to slightly tilt the glass or the frame supporting it, away from the light to get strength in the shadows, in which case the camera is tilted correspondingly so that the ground glass is parallel to the subject glass.

Reverting to backgrounds, it may not be amiss to state that a light and shadow, or clouded effect, in the cards used for backgrounds, is a help here; and, as in portrait work, helps to accentuate the light and shadow parts of the picture. These cards may be home-made, produced by using dry color and dabbing or rubbing it in where wanted with a tuft of cotton wool. Color can be used in this way to correspond with the color of the subject, making the relative values of the background as consistent with the subject, in the case of colored flowers, as is a gray clouded ground with white ones.

I hardly imagine any one would attempt this class of work who sends his plates out to be developed and printed from, but should they think of doing so, I would say, don't. One should know, for this kind of work, how to develop a negative for full gradation and detail, and the character of the negative should be such that it will make a good print on Solio; one fully developed, but not over-dense. Such a negative will yield good prints by any process, not even excepting "Gum."

Flowers are very sensitive and "temperamental," and require about as delicate handling as grand opera singers. Each particular variety presents its individual problem, but with persistent observation and painstaking care one can

PHOTOGRAPHING FLOWERS



MORNING GLORIES—September, 8 a. m. Zeiss I'nar, f-32, fifteen minutes' exposure. Light A. Buds picked the night before and allowed to bloom in work-room in small bottles.

learn things about them that not even the botanist may know. On no account should flowers be picked or cut, for photographing, after the hot sun has been on them; they are sure to droop. The early morning is the best time to get them, and as little time should be lost as possible before getting their stems into water. Some flowers begin to droop at once after being picked, and it may be necessary to fool them. For instance, I was never able to get a good negative of morning glories until I tried the experiment of cutting the buds the evening before, and letting them open in the workroom overnight.

I have read of people managing flowers by talking to them, claiming that they understood and responded. I think they would respond with a vengeance, if this is so, at some of the language that is handed to them when they refuse to do what is required of them. Still, the game is really worth while to any one who likes them well enough, and I know of no branch of photography that holds its interest with the same degree of continuity. One is not obliged to lug a camera all over creation to get the pictures, nor is he obliged to listen to unpleasant comments made by strangers while doing the "taking."

Work thou for pleasure;
Paint or sing or carve
The thing thou lovest, though the body starve.
Who works for glory misses oft the goal;
Who works for money coins his very soul.
Work for the work's sake, then, and it may be
That these things shall be added unto thee.—KENYON COX.



Actinicity of Surfaces, and Exposure

By F. Morris Steadman

Author of "Unit Photography," "Home Portraiture," Etc.



With Illustrations by the Author

The emulsion of the average plate or film requires about one thousand times as much exposure to become tinted to a "least visible" degree as it does to become normally exposed in the ordinary sense, in the camera. The maximum sky would, normally, expose the average fast plate in about one one hundred and twenty-eighth second with stop f-8, and about one thousand times that exposure, or eight seconds, would visibly tint the same emulsion. It follows that if the sky will visibly tint a given plate or film emulsion in eight seconds with an f-8 cone of light, with an f-1 cone it will do so in one sixty-fourth of eight seconds, or one-eighth second, the difference in the time required being, as is easily understood, in direct ratio to the squares of the f- numbers.

In the shade of a house, a fair-complexioned face will have approximately one-eighth the actinicity of the sky and therefore the "least visible tint time," using f-1, would be eight times one-eighth second, or one second. The reader will understand that an f-1 cone of light can be obtained without the use of any lens by cutting a circular opening in the lid of any small pasteboard box, making its diameter equal to the depth or thickness of the box. If, then, a small hole is cut in the bottom of the box opposite the larger one in the cover, the sensitive paper can be placed behind and in contact therewith ready for a test of the light. The tinting is done by the light reflected directly into the f-1 opening in this simple actinometer from the cheek or forehead. With a light one-eighth as actinic as that in the example just mentioned, the requisite time would of course be lengthened from one second to eight seconds.

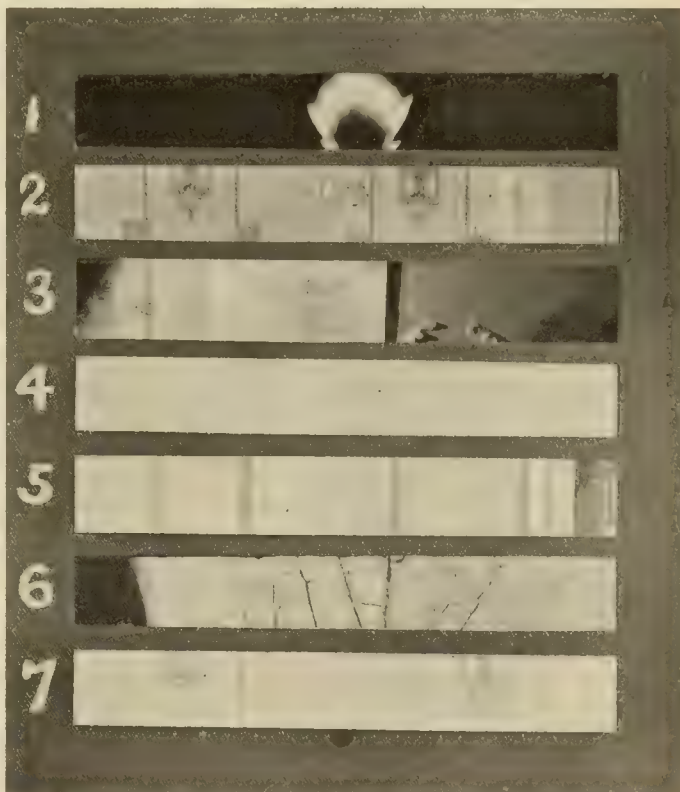
It is seen, then, that, without departing in any way from the employment of the recognized units of measurements, the f- values, only utilizing the natural unit of that scale, f-1, the time required to secure a visible light measurement directly from a well-lighted surface is so reduced as to become both convenient and practical. A surface so weak in actinicity as to require one minute or sixty-four seconds in which to achieve a least visible tint through an f-1 opening on a convenient standard tinting medium, is chosen arbitrarily as the most practical unit of actinicity. This being accepted, a surface requiring thirty-two seconds in which to produce a least visible tint would indicate two units of actinicity; an eight-second tint time, eight units; a two-second one, thirty-two units, and so on. Therefore, to find the actinicity of any surface with the unit or f-1 actinometer, one has but to divide sixty-four by the tint time of that surface, as measured.

For determining the standard or least visible tint, using an f-1 aperture, I have found by actual test that Eastman N. C. film, Ensign film, Watkins Meter

ACTINICITY OF SURFACES, AND EXPOSURE

paper and No. 4 Montauk bromide paper are of the same speed; that all four acquire the least visible tint or discoloration of their emulsion by light in the same length of time. Any of these emulsions may therefore be employed, but the last is recommended, especially as against the film, as being more economical and affording a tint more easily observed.

The accompanying illustration shows the results of experiments in photographing various surfaces, Ansco film being employed in the camera. They, the several surfaces, were photographed in narrow strips simply to illustrate the correctness of the unit method of measuring the actinicity of various surfaces. Previous experiments had shown that this film gave the best results when exposed upon a subject of unit actinicity with the unit or f-64 stop for five hundred and twelve seconds; therefore these experimental exposures were made on this basis of speed. In each case the speed of the film, five hundred and twelve seconds, has been divided first by the unit actinicity of the surface as measured and this quotient so secured again divided by the unit value of the stop employed, the final quotient being the exposure given. This follows the rule for determining exposure by the Unit method. In actual practice it is well to calculate the speed exposure for each stop throughout the scale, once and for all, after which one has but to select the stop and divide its individual speed time by the measured actinicity of the subject. So doing, one arrives at the correct exposure with but one simple division.



PHOTOGRAPHS OF VARIOUS SURFACES

Number 1 is an ordinary gas flame, the brighter part measuring thirty-two actinos with the f-1 actinometer. Five hundred and twelve seconds divided by thirty-two gave sixteen seconds as the correct exposure with the unit stop. As the sixteen-unit stop was used, an exposure of one second was given.

Number 2 shows the white page of a book lighted by the same gas flame. The tint time at the page, not an f-1 measurement, using Montauk bromide

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paper, was thirty-two seconds. Since an eight-second tint time with this paper denotes unit actinic for a white surface, eight divided by thirty-two gave the actinic of the page as one-fourth an actino. Our five hundred and twelve seconds we will call, for convenience, eight minutes, divided by one-fourth equals thirty-two minutes, the correct exposure with the unit or f-1 stop. This time divided by sixty-four, the unit value of the stop used, gave thirty-two seconds or one-half minute as the correct exposure. The tint time in this case is that taken by my older method, in which a hole cut in the corner of an ordinary note book is used. The book is held at the subject and turned to make the hole face the brightest light. The unit actinic of any subject may be taken in this way as well as with the f-1 actinometer.

Number 3 is an average colored wall that gave the least visible tint in eight minutes on Montauk paper, indicating one-half an actino. The eight minutes divided by one-half and again by thirty-two, the unit stop, gave, as before, thirty-two seconds as the exposure.

Number 4 is a bedspread some distance from window. This surface measured one actino with the unit actinometer, and five hundred and twelve seconds divided by one and by thirty-two, the unit stop used, gave sixteen seconds' exposure.

Number 5 is a white painted door. Measured two actinos. Again dividing five hundred and twelve, the speed of the film, by two and then by sixty-four, the unit stop employed gave four seconds as the exposure.

Number 6, the sky. This measured two hundred and fifty-six actinos or one-half the summer maximum, which, as I have stated, is five hundred and twelve actinos. Dividing the speed of the film by the number of actinos and again by four, the unit number of the stop, one-half second was indicated and given.

Number 7 is a section of wall in the deepest shade of a room. Using the least visible tint time method, it was found to have only one thirty-second of an actino. Proceeding as before, that is, dividing by one thirty-second and sixty-four, the stop, four minutes was found to be the exposure.

The most actinic of these subjects, the sky (all being considered as mere expanses having a measurable actinic), was eight thousand times as intense as the weakest one, the wall in shadow. While the strips reproduced show that the sections are not of exactly the same opacity, it seems to me that they are near enough so to warrant the assertion that the unit photography method of resolving light measurements into a simple and practical numerical system is logical and correct.

As I have said, this least visible tint is secured from the sky of maximum brilliancy in one-eighth second. This being so, the actinic of the sky, at its maximum, is sixty-four divided by one-eighth, or 512 actinos, this last term being chosen as the name for this unit for the simple reason that it seems to be suggested in the name, actinometer; and because, when the latter word is considered as made up of "actino" and "meter," it quite logically conforms to its natural analysis of a meter or measure of actinos. It must not be thought that the use, in this system, of steps of one hundred per cent, as explained above, denies all the accuracy that can possibly be required in its use. These steps are

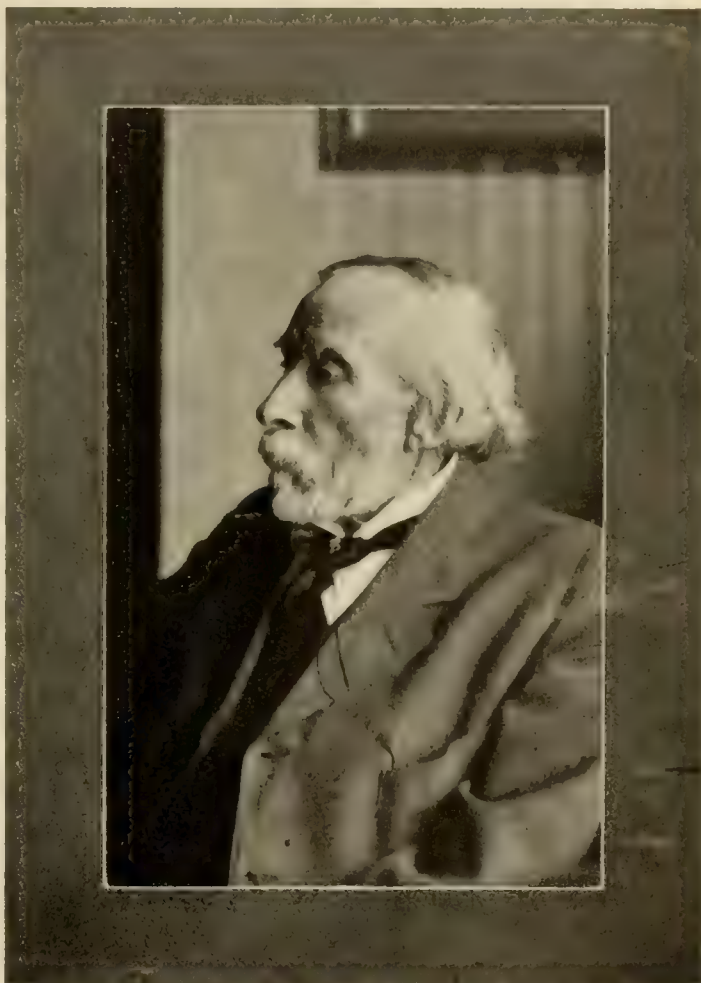
ACTINICITY OF SURFACES, AND EXPOSURE

the same as have always been employed in graduating the stops in our lenses. Furthermore, this amount of separation in the steps is amply covered by the acknowledged degree of latitude afforded by our present-day plate and film emulsions. Of course, this wide division between steps would permit an inaccuracy that would be as absurd from a laboratory point of view as the ultra-refinements of the laboratory would be in the daily practice of photography.

The speed of plates and films being designated by the actual time of exposure that each

requires, employing a unit subject and the unit stop, coupled with the knowledge that this speed exposure is sixteen times as long as is required to just overcome the inertia of this particular emulsion, places the whole matter in one's hands to be dealt with according to judgment and practical experience. For example, take the second subject in the series, the printed page illuminated by the gas-light. If, in one's judgment, the getting of a brilliant print were more important than uniformity of deposit in the several strips, clear letters and good contrast could have been secured by an eight inertia or even only a four

inertia exposure rather than the normal exposure as given. This sixteen inertia or full normal exposure is the one required when photographing a subject of normal actinic contrast, such as a portrait head having normal light and shade. The resultant negative would then have been quite thin, provided of course that it were developed normally or perhaps along with other exposures. The black letters would have come perfectly clear and after-intensification of the negative



CARL C. MESSER. PRINCIPAL CORCORAN ART SCHOOL, WASHINGTON, D. C.—Speed of film, five hundred and twelve, highlights on face, four actinos, unit stop sixty-four. Making the two divisions as advised gives two seconds, the correct exposure.

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would have quickly provided any degree of opacity that might have been needed for the paper intended to be used.

As stated earlier in this article, Unit Photography does not involve a departure from recognized standards or the discarding of accepted factors. It is necessary, however, in order that one may have a clear conception of the true value of this new systematizing of the common-sense truths of light action, that one fully understand the one new thought which marks it out from all other methods. This is simply the extension of the old and accepted truth of ray convergence as applied to the effect of light acting upon a photographic emulsion through a photographic lens. This understood, the unit system becomes a basic truth to be employed in dealing with all the problems having to do with light measurement, either in connection with photographic lenses or otherwise. And, let me add, this is not the pet theory or dream of a visionary or crank. During the last few months I have been asked to explain this new system of study and practice to a number of scientific bodies and a class of teachers in Columbia University. I have been requested to outline a public lecture for consideration by the Lecture Bureau of the New York Board of Education. The extending of these invitations resulted from brief conversations that elicited deep interest and in each case an expression of the belief that the foundation on which the popular study of light at present rested was open to improvement.

The importance of this new application of the light cone or convergence can best be realized by remembering that heretofore all books have considered only the "point source" method of dealing with the subject. This unsatisfactory basis of study is founded upon the truth that light rays go out to all directions from a point source or from each point in all sources. On the other hand, the convergent idea is based upon the fact that every individual point on any opaque or in any transparent or translucent body, is naturally the focus of a cone of rays which impinge upon it from the expanse of space about it. To the points on the surfaces of opaque bodies the space from which converging rays emanate is confined to a hemisphere, while points within the body of a transparent mass may receive illumination from a full sphere.

In the ultra-scientific investigations of the phenomena of light, a form of study with which I am, unfortunately, entirely ignorant, examination is directed upon small intense beams of light having a point source as a matter of necessity. But there is no reason for any antagonism between this form of investigation and the establishing of a popular objective form of light study based on the truth of a convergent form of illumination. That the two forms of handling the subject need not conflict has been proven by the reception accorded my system during the last few months by a large number of scientists and physics teachers that I have had the privilege of laying it before. These men, almost without exception, have expressed great interest, some of them most enthusiastically, in the prospect of having available a method that would be of assistance in their work of giving their classes a clear comprehension of the action of light. This last the unit system provides, as it also does a simple numerical method of measuring the actinic intensity of any surface, thereby placing the practice of photography on a "cause and effect" basis that makes possible a simple and rational line of reasoning in dealing with its problems.

ACTINICITY OF SURFACES, AND EXPOSURE



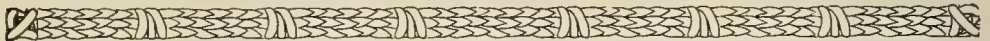
A PLEASING HOME PORTRAIT

Because the amount or intensity of the light in photographic work does not demand the exactness of measurement found necessary in the work of the engineer, the chemist, or even the grocer, who, if a little careless, may, to his loss, give us one or two per cent more sugar than we pay for, there is no reason why the rationality of the reasoning employed in dealing with its problems should be any less satisfying. It is universally conceded that we do not need to measure any of the elements entering into photography with greater accuracy than that afforded by steps that progress by doubling. The stops in our lenses are rightly graduated in that sequence, although there is nothing to hinder the pointer being placed somewhere between any two of these numbers if thought best for greater refinement. If the maximum actinicity of one object or surface is double that of another of the same general character, particularly as to contrast, we need to know it, but even twenty or thirty per cent difference is negligible. The accuracy necessary may quite rationally be defined as a precision that suffices. Why, then, should we not have a means of expressing the actinicity of each or any subject, surface, or flame of whatsoever actinicity, in simple unit numbers? With such we can easily calculate that if a subject of unit actinicity requires, let us say, eight seconds' exposure with a given stop, a subject measuring two units will require one-half of that time, or four seconds. This is a convenience badly needed in photographic practice to lift it out of the chaotic condition that it now suffers.

The same is true of plate speeds. If one plate has double the speed of another, we know that it should expose in half the time. How utterly simple the problem of speed becomes when so stated. With actinicity unified alike simplified the problem can be stated as follows: In photographing, with a certain

stop, a subject of unit maximum actinic and of normal actinic contrast, it is found that a certain plate requires sixteen seconds' exposure. If another plate gives its best results with an exposure of eight seconds, how much faster is this second plate? Double the speed, of course. If still another plate has been found to be working only half as fast as the first one, what time will it require for a proper exposure? Twice sixteen, or thirty-two seconds, most assuredly.

There remain then only the variations or departures necessary for best results when one subject has a degree of contrast departing from the normal as when the texture is desired in a certain cloth, stretched flat, or when a contrast lacking bird's-eye view is being dealt with. Surely, with the means of determining the actinic of any plane, either near or distant, either in shadows or in the high lights, and expressing the degree of such actinic in plain numbers, we are certainly in a position to approach the problem of exposure with much more confidence than is possible when actinic, contrast and plate speeds are all in a chaotic jumble.



A Home Daylight Printer

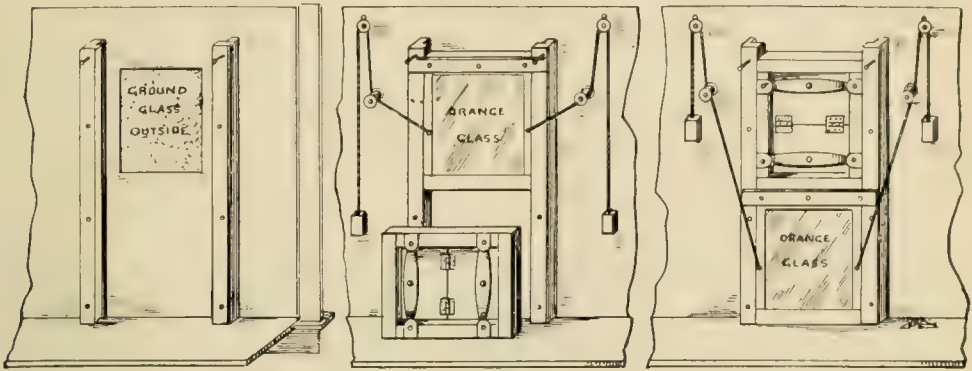
By Philip Benz



Take a board about one foot wide and as long as the width of the window. Select a north window if possible and nail this board in place on window sill as shown. This forms a shelf for the paper and printing frames. Next fit a board to cover the bottom part of the window, a board that is at least three inches wider than the length of two printing frames, such as are most generally used, of exactly the same size and thickness, placed end to end. Then take the two printing frames, and, holding them, one above and resting on top of the other, against the center of the board, the bottom one resting on shelf, remove back from the top frame and mark board by running a pencil around inside opening. Saw out this piece, making the marked hole a trifle larger all around than marked. On the outside of this opening in the board, fasten a ground glass as shown in the sketch. The balance of window, that portion above the board, must be covered up to exclude light.

Next cut four strips of wood one inch longer than the length of the two printing frames, and have each pair of such a thickness as to just equal that of the printing frames. When these strips are nailed together and nailed to the board as shown, they will form guides between which the printing frame can slide up and down after having strips nailed to its sides. The strips fastened to the upper printing frame extending an inch below it to facilitate inserting it behind the guide. The strips on the lower frame should be shorter, extending only to within an inch of the top so that when the two frames come together the long strips on the upper frame will find room and allow the two frames

A HOME DAYLIGHT PRINTER



to come together with no open space between them. Take the lower frame, the one with the shorter side strips, remove the back and fasten a sheet of orange glass in it, as shown in one of the sketches. This frame, when raised opposite the ground glass, forms a yellow window for developing. Across the top edge of this frame fasten a strip of thin brass or wood, long enough to extend past the frame at both sides, and projecting a little way above the top edge. This strip travels up and down with the frame and excludes all light that might leak out from between the two frames. It also forms a stop for the orange glass frame, preventing its being lifted out when the top frame is removed. The two nails, one on each side, that act as a stop for this strip, should be so placed that when the frame is raised into position its opening will be exactly over the ground-glass one. Near the middle of each side of the lower frame, put in two small screw-eyes. In about the position shown in the sketch, fasten two ordinary spools by a nail through them, leaving them loose enough to turn freely; and, above each spool and near the ceiling, fasten a small pulley. Run two cords as shown and on the end of these cords fasten a weight; the two weights together should be slightly heavier than the frame carrying the orange glass. So arranged, when inserting frame for making the exposure, the weight balance lower frame will stay down, the top one being heavy enough to counterbalance the slight additional weight. At the same time, when the top or printing frame is removed, the lower frame will follow up automatically. The last of the small sketches herewith shows the position when exposing a print.

This will be found a very useful and convenient printing arrangement. I use Brown Label Cyko with this printer; and, although it is somewhat slower than ordinary gaslight paper, it is fast enough for daylight exposures. This same arrangement can be used for developing plates by simply cutting out another and lower opening as indicated by dotted lines in the first sketch, and fastening ruby glass over it. Used for developing, it will look as in the last sketch with orange glass frame in position over the ruby light.

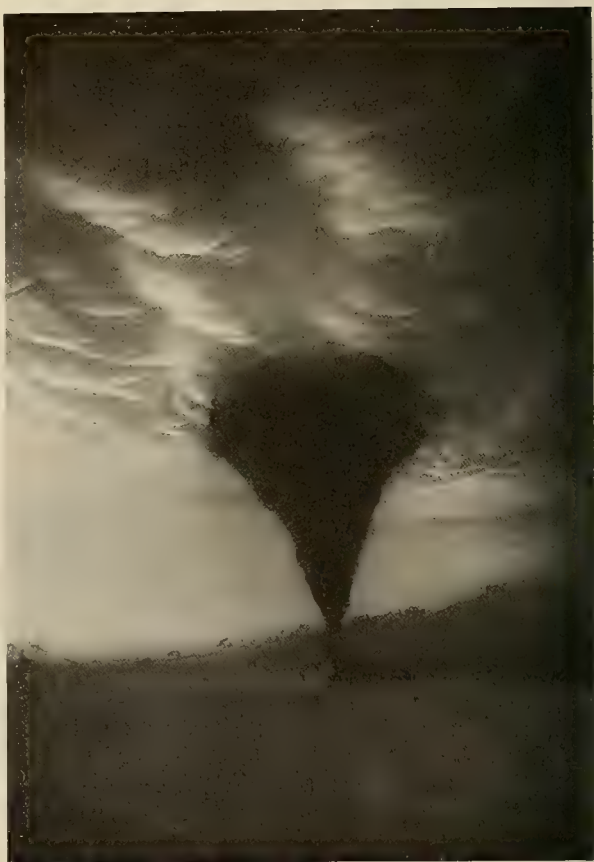
Three-fourths of the mistakes a man makes are made because he does not really know the things he thinks he knows.—JAMES BRYCE.

An Interesting Photograph

By G. F. Green, Brewster, Wash.



The accompanying picture of the Waynoka cyclone or tornado was taken by me during my residence in Oklahoma some few years ago. It was made with an old Vive camera, the lens stop being f-11, the exposure one-twentieth of a second, the time about five p. m. in April. The camera was pointed directly towards the sun, the tornado being between it and myself as the exposure was made. As the light was coming from the clear horizon behind the tornado, my side of the funnel was in shadow, but fine light and shade effects were produced in the madly rolling clouds on either side and above. These clouds seemed to be rolling violently in various directions and they would certainly have made a most wonderful moving picture had a suitable camera been available. This tornado



THE WAYNOKE CYCLONE — Copyrighted 1898 by G. F. Green

caused no loss of life, but buildings, lumber, furniture, cooking utensils and clothing were scattered for many miles. Should one be fortunate enough to meet one of these interesting phenomena when he has a camera with him, he should remember to expose for the clouds and not the landscape below. In the negative made the landscape is practically clear glass and therefore comes black and entirely void of detail, as shown in the picture. The negative was made on an ordinary plate and developed in the usual way, care being taken not to develop too far, but to keep it soft as one would do in developing a cloud negative.

Cheer up! It may appear to you that all the good jobs are taken, but by the time you are capable of filling one it will be vacant.—*Atchison Globe*.



Advertising and Announcement Slides

By Frank B. Howe



With Illustrations by the Author

With the wonderful growth of the moving picture industry during the past few years, there has developed an entirely new use for the lantern slide, that of advertising and for announcements in the theater. The demand for high-class, well-made, attractive slides is so rapidly increasing at present that it would appear that the demand will soon be in excess of the supply. This is particularly true in small towns, where it is necessary to send away, perhaps at a delay of a week or more, for any slide that may be required, while there is no reason why the town photographer should not be able to supply the need. Rather than wait for a slide to be made and shipped to him, the theater manager will sometimes endeavor to construct a slide of his own, with the disastrous results that we often see between pictures in the smaller theaters. These slides, instead of accomplishing their purpose, disgust the audience and hurt the show. A high-class, colored slide is never offensive, and is the best means of reaching the public with advertising and announcements of coming attractions.

There are many ways of making advertising and announcement slides, but probably the most satisfactory way is that employed by motion-picture manufacturers to make their titles. A black card is lettered with white paint and this is photographed and printed onto the slides. For the lettering, it will probably be better at first to get a card writer to design the slide. Any size of card is satisfactory from 6x8 up. The white paint usually used is made of white lead and thin glue mixed thick enough to be just easily applied, not thin enough to run and not so thick as to be difficult to apply. After a little experience, the photographer should be able to design his own slides, using the card writer's work and the slides seen at the theaters as a guide. Books of architects' alphabets will be helpful and in a surprisingly short time one can do very good work in designing the slides. The wording should, above all things, be as condensed as possible, for the slide will not remain projected on the screen long. It should rather be a reminder of the firm than an advertisement of some definite article. Announcement slides should contain little else than the name of the picture, the star appearing in it, and the date of exhibition. Too much ornament is a detriment, a plain slide being much more pleasing than a too fancy one.

Having written the card, the next thing is to make the negative. The size of the standard size slide is $3\frac{1}{4} \times 4$ inches, but a mat is used which reduces this to $2\frac{3}{4} \times 3$, so the negative must include all the lettering within slightly less than these last given dimensions. For copying, any process plate may be used, but I have always found it more economical and perfectly satisfactory to use a slide plate. Any slide which will give good contrast is satisfactory, and while I am using the Defender, grade A, I am sure there are many other kinds on the

CAMERA CRAFT

market which would serve as well. For the development of this plate, I have found the formula credited to Burton H. Allbee the most satisfactory. It is as follows:

A: Water	10 ounces
Hydroquinone	75 grains
Potassium metabisulphite	5 grains
Potassium bromide	25 grains
B: Water	10 ounces
Sodium sulphite	1 ounce
Caustic potash	50 grains

Use equal parts, with no dilution. Development should continue until the whites begin to slightly fade. Then rinse and fix in an ordinary chrome alum-sulphuric acid fixing bath.

The negative being made, the slide should be printed by contact. For the Defender A slide, I expose five seconds at a distance of three feet from a sixteen-candlepower carbon light. Development should then proceed as for the negative. If only one copy of a slide is desired, it may be made by writing the card with black ink on white background, reversing the plate in the holder, stopping down to make up for focus thrown out by the reversal of the slide, and then exposing. The slide will then develop white letters on black background and be ready for finishing the same as a contact slide from negative. If one has a very steady hand, the lettering may be written on a piece of thin transparent celluloid and printed by contact. Black India ink should be used for this. This latter method has the advantage of saving expense of the slide plate negative, for celluloid costs practically nothing and may be used many times, the ink being easily washed off. Black slides are much more pleasing than white background ones, for the glare from the all-white ones is very hard on the eyes and makes them hard to read. This is the reason that moving picture titles are white letters on black.

The slide being washed and fixed, it should be set to dry and not moved during drying, as this will cause uneven density.

The slide dried, the letters are now to be colored. This seems to be a formidable task, but in reality is very simple. Three colors are usually the most that can be well used on a slide. For colors, I have found the Velox water color stamps to be most successful, for a two and one-half cent sheet of them will color five hundred slides or more, and the colors have seemed to me to be more transparent and brilliant than some of the other makes. One stamp dissolved in two ounces of water will make about the right color for working with, and can be bottled up and used over and over again. A large brush should be used, as it is less likely to scratch the emulsion. I use a number 10 for all work except very small letters. If preferred, an alum bath may be used after washing the slide, but I have never found this necessary, and have considered it a waste of time. The less soaking in water for a slide the better, for it is liable to lose density. Therefore, I omit the alum bath.

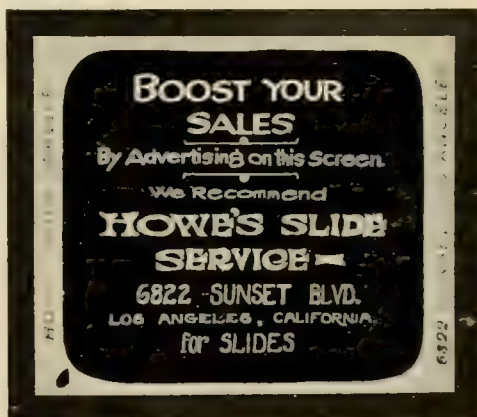
As the background of the slide is black, the color may be flowed over all the letters and background too, for it will not show through the background. The three colors most used are red, yellow and either black or purple, while

ADVERTISING AND ANNOUNCEMENT SLIDES



ANNOUNCEMENT AND PLAYER SLIDES—The theater writes in name and date with India ink and this can be washed off and changed. Player slides are made of all the picture players.

some letters may be left white. Do not have all of one color in one place, as for instance, red at the top, green in the middle, and yellow at the bottom, but try to make the effect more pleasing by having for example the top and bottom lines red, or dividing one line into two colors. This is a matter that cannot be well described, but can best be learned by experience and observation of other slides. Flow the color over the letters, let it stay a moment, and then remove the surplus water with a dry brush, and the letters will dry evenly colored. If the color is not dark enough, repeat the operation until it is the right shade. After coloring, do not wash the slide, but set it to dry, turning it occasionally, so that the color will not all run to one edge, which sometimes happens, even if the surplus water has been removed.



ADVERTISING SLIDE—Given free to theaters that will run it. Boosts the theater's advertising business as well as that of the slide maker.

The drying being completed, all that remains is to mount the slide, the same as a picture slide. A mat must be used. These can either be purchased, which will be the best if you are only making a few, or after a little practice can be cut from paper. I use a stencil, cut just the shape of the inside of the mat, made of copper, run a pencil around this and trim with a knife or scissors. The shape of the stencil can be gained from the purchased ones, the No. 1 size, $2\frac{3}{4} \times 3$ being the standard. If you are to cut your own, get black glazed paper; this is white on the opposite side. On the white side the name of the maker may be printed with a rubber stamp in the margin. These mats are much cheaper to make, costing about ten cents a hundred, while the kind purchased already cut cost sixty cents per hundred, and, being black on both sides, do not permit the name to be printed on as an advertisement for the maker.

The mat should be laid on the emulsion side of the slide, with black side toward the emulsion. On top of this lay a cover glass which is the same size as the slide. One will probably have enough old slides that can be cleaned off and used for cover glass. These are then bound together with a piece of binding tape.—gummed paper cut the right length,—and the slide is done except for the addition of a "thumb spot," which consists of a Dennison's No. 251 label stuck on the lower left-hand corner of the cover-glass side of the slide. This is to enable the operator to put the slide into the machine right way up.

If one desires to try out his slide before sending it out, the projector I described in the April CAMERA CRAFT will possibly be of use. It costs practically nothing to make and enables one to see how his slides will look on the screen.

As to prices charged for slides, they run from ten cents each, when made in great quantities, to one dollar and a half apiece when made to order. A good slide will always bring a good price, for there is nothing harder to get than a well-made, attractive slide, and nothing that will be more effective once it is secured.



A Gasoline Mantle Printing Lamp

By John B. Woodyard

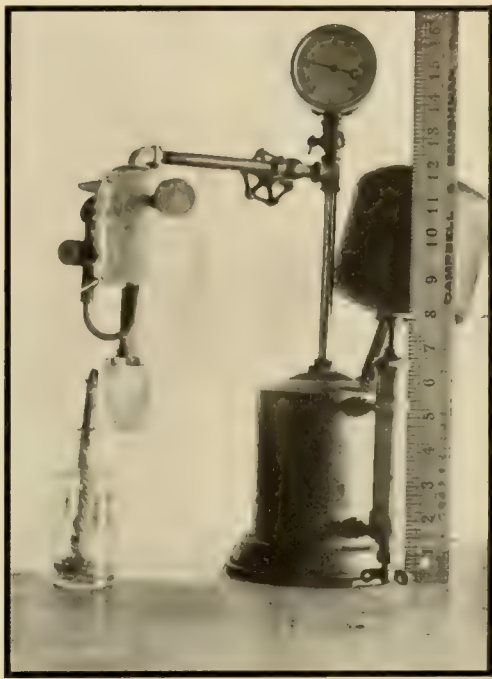


With Illustrations by the Author

The illustrations herewith show a very serviceable printing lamp that I put together some time ago and have since found most satisfactory. There is nothing original about it except the combinations and arrangement of the several parts, and its chief claim to merit lies in the fact that it gives the rural resident, who has neither gas nor electricity available, a strong printing light that will greatly facilitate his work. A lamp of this kind should be just the thing for a traveling photographer, as the light is readily controllable, quite steady, of constant and uniform actinic power, and always ready and reliable. Of the gasoline lights on the market, only a limited number are adapted to the wants of the photographer, as they lack the turn-down or dimming feature that is quite essential.

The base of the lamp is the tank portion of a plumber's torch, that is manufactured by the Turner Brass Works, of Sycamore, Illinois. The one used is listed as Turner's Old Reliable No. 12, and costs three dollars and seventy-five cents. It is the one best suited, as it fills from the top. The torch part is removed and retained, as it can be replaced at any time that one may wish to use it for heating water, thawing out pipes, or the like. As this torch screws on the base or tank with a special thread, one should, in order to fit the pipes for the printing lamp, take a hack saw and cut off the torch shank just above the

A GASOLINE MANTLE PRINTING LAMP



thread that enters top of tank. Then thread both cut ends with a one-eighth inch pipe tap and then join the two again by using an ordinary continuous thread nipple costing about twenty cents. The auxiliary tank shown at the right in the second illustration should be made of copper or brass and hold about one quart. This should be connected to the filling plug of the tank with a piece of quarter-inch pipe, threaded to fit.

The pressure gauge is not absolutely necessary, but a great help in maintaining an unvarying light. Instead of using an elbow at the intersection of the upright pipe and the horizontal one, a tee is used as shown in the picture and this makes it quite easy to attach the gauge above. The lamp shown is the 444 model, costing about two dollars and obtainable from the National Stamping and Electric Company, 410 South Clinton Street, Chicago. The valve shown in the horizontal pipe near the gauge can be obtained from the same firm. A similar lamp is supplied by the Superior Manufacturing Company, Ann Arbor, Michigan. The power of turning down the light is not necessary; in fact, it is an advantage, in a way, not to have it, as one is then compelled to print a thin negative further away from the light. The burner is equipped with a turn-down and it should have its handle so bent with a pair of pliers that it forms a crank to be operated by a turning motion. The inverted light purchased should be equipped with an orifice cleaner, preferably one that is automatic in action and self-containing. This lamp part costs three dollars and forty cents by parcel post.

With a 4x5 plate and with the frame about a foot below the light, the time of exposure is from one-quarter to one minute. While any form of mantle can be used, one should avoid those having a ball at the end formed by tying the

bottom together with a piece of string, if printing is to be done directly beneath.

The heat from the inverted mantle is a drawback that must be endured with any lamp of this type. The baffle shown at the left of the pictures was put on in an effort to shield the valve in the middle thereof from the heat. I found it did not achieve the desired results. As sent out from the factory, the lamp has an ornamental metal housing around the lamp. This is unnecessary and undesirable, so can be removed. To make joints tight, use water glass thickened with litharge. On joints that one may desire to take apart occasionally for easy packing or for any other reason, ordinary brown laundry soap should be put on the threads. The empty lamp with auxiliary tank weighs about six pounds. The light does not go out immediately after the valve in horizontal pipe is closed, but this allows one time in which to get out of the dark-room without the danger of upsetting something for want of light.

It may be well to close this little article with a few bits of advice and caution. Do not, under any circumstances, fill lamp after dark or in a room where there is a light or fire. Do not use an excessive amount of pressure in the tank. A buzzing is produced when there is sufficient pressure and a pure white condition of the mantle. Either strain gasoline thoroughly or leave a small quantity in the container while avoiding any undue shaking thereof. The consumption of gasoline is quite nominal, as one quart will burn about ten hours. The mantle affording light for reading and work, the whole family can share in its benefits.

Do not try to start the lamp too quickly, but allow time for it to generate fully. Once started, it can be turned down and left burning as long as may be desired. Do not try to start lamp with gasoline; use only wood naphtha or denatured alcohol. Do not turn light down low and expect it to burn steadily until it regains its heat.



Friction or Abrasion Marks

By Charles W. Fricke



When using glossy and very smooth-surfaced developing and bromide papers the prints are often disfigured by fine, hair-like, smudgy black, or grayish black, marks appearing on the margins and lighter portions of the prints. These marks are known as friction or abrasion marks and are the results of microscopic scratches on the surface of the emulsion. Care in handling the paper will not prevent these scratches, for they are most often caused by the pressure and friction which are unavoidable in packing the paper and also by the slight rubbing together of the sheets as they are removed from the package for use; the only course is either to prevent the appearance of the friction marks in the print by modification of the developer or by removing the marks after the prints are fixed.

FRICION OR ABRASION MARKS



THE FIELDS IN WINTER

By CHARLES W. FRICKE

The most common and a very good way to remove abrasion marks is to rub the dry prints with a piece of absorbent cotton moistened with wood alcohol or grain alcohol. Only a slight rubbing is necessary and this treatment will remove the marks in almost every instance.

Where a large number of prints exhibit abrasion marks after fixing, one of the best methods of removing them is to first thoroughly wash the prints so that they are free from hypo. The prints are then immersed for one minute in the following solution:

Potassium iodide	30 grains
Iodine	3 grains
Water	10 ounces

after which the prints are rinsed, placed in a hypo fixing bath for five minutes and then rewashed. Immersing the prints in the iodide bath will give them a bluish cast, but this will entirely disappear in the hypo bath which follows.

As practically all methods of removing abrasion marks have a tendency to at times slightly reduce the prints, to say nothing of the additional labor involved, the best method is to avoid the abrasion marks in the first place by adding to the developer a chemical which will prevent their appearance. The addition of iodide of potassium to the developer is the most common preventive of abrasion marks, the proportion being about one grain of iodide to an ounce of developer, though with some papers this is not enough, in which case a little more will have to be added. In using iodide of potassium in the developer, it must be borne in mind that the iodide has a tendency to produce flat prints if used in too great a proportion. The value of iodide in the developer as tending to make the paper work softer is not so well known as it should be. While

we have so often been warned against allowing any hypo to enter our developer, it seems at first odd that hyposulphite of soda added to the developer in the proportion of one grain of hypo to each ounce of developer will not only prevent the appearance of abrasion marks, but does not otherwise affect the quality of the prints; in fact, hypo is the best chemical to add to the developer to prevent abrasion marks.

In this connection it should also be noted that some brands of paper are more subject to abrasion marks than others, there being a few makes of paper to which abrasion marks are almost perfect strangers. As abrasion marks are rarely met with except in the glossy or very smooth grades of paper, it is best for the worker to use the semi-matte or even rougher surfaces except when the subject requires the glossier finish.

The Harvest

What reaps the Artist from the joyous seed
Sown of his soul?
What price but the joy of the sowing done?
The rest is the love of his precious Art
That is echoed back from another heart
A hundred fold.—TYLER McWHORTER in *Art and Progress*.



PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

TO TEST A SHUTTER'S SPEED: I recently desired to ascertain the actual speed of a shutter and went about it in the following manner: Taking an ordinary disc phonograph, I slowed it down until the turn-table made one revolution in exactly one second. On the edge of the felt-covered turn-table I pinned a narrow strip of white paper and then set it up as nearly "on edge," or perpendicular, as possible, in a position where it received unobstructed sunlight. Photographing this while in motion gave me the fractional parts of a second for my several shutter speeds. This method I believe is more efficient than the one recently described in this magazine, for the reason that the speed of the revolving disc is absolutely uniform.—Charles Rowles, Minnesota.

TONING BLUE PRINTS: It often happens that some one wants a black blue print, or, to put it in another way, a blue print changed to a black tone. Here is a formula which I have had for a great number of years. I am giving it out now for the first time. Perhaps it may help some poor, struggling picture man. Blue prints may be given the black tone by plunging them into a solution of four parts of potash to one hundred parts of water; then, when the blue color has entirely disappeared under the action of the potash, and a yellowish color has taken its place, they are immersed in a solution of four parts of tannin to one hundred parts of water; then, washing them again, prints are obtained whose tones assimilate to those of pale writing ink.—Theo. E. Peiser, California.

AN IMPROVISED GLASS CUTTER: Recently I desired to cut a sheet of glass, and having no glass cutter at hand, I thought that I would try a makeshift in the form of a sharp-cornered piece of the white quartz that abounds in a ledge near my home. Using this, in connection with a straight edge, I scored the glass two or three times and found that it broke along the scratch very easily and so nearly true that only the slight use of a file was necessary to give me an almost perfect cut. These quartz crystals are available in nearly all parts of the country, although they may sometimes be found only in the form of fairly smooth pebbles in the beds of streams. When this last is the case, a sharp blow with a fairly heavy hammer will produce the necessary sharp corner.—Mrs. G., Oregon.

FOCAL LENGTH OF A LENS: An old-time formula, W. H. Sherman's rule for finding the focal length of a lens, is as follows: Make two images of any object of convenient length, so that the difference between the images will be equal to some even part of the object, making the position of the lens board on the base of the camera where each image is in focus. The distance between the two positions on the ground glass thus found will be the same part of the focal length that the difference of the two images is of the object. Example:

With two images of a foot rule, let one image be eight inches long and the other four inches. The difference being one-third the length of the object, the distance between the two positions of the lens board or camera front will be one-third of the focal length of the lens.—Theo. E. Peiser, California.

MULTIPLE EXPOSURES WITH A KODAK: Amateurs having a kodak with plate attachment can employ it as a multiple exposure camera by using one of the strips of backing paper that come on a film of the same size. Take



one of these strips and carefully cut three openings therein properly spaced as shown in the accompanying diagram.

After winding this prepared strip of backing paper on a spool and inserting it in the camera the same as a film, wind the first opening into position and make exposure on the plate; this of course being the size of the opening. Then move the opening in the paper forward enough for the next exposure, and so on. After taking this series of pictures on the upper third of the plate, the second opening appears and exposes a series through the center and so on until the whole plate is exposed. Each exposure can be focused separately, and by varying the size and position of the openings, one can secure a greater or smaller number of exposures on the plate.—J. F., Illinois.

AN INEXPENSIVE PRINTING BOX: Secure from the grocer as well made a box as is available from his stock of empties, selecting one about 10x10x8 or a trifle larger. In the cover saw out a hole a little smaller than the dimensions of the printing frame to be used, yet a trifle larger than the rabbeted portion thereof. Around this opening nail strips of thin wood so that the frame is held snugly in position when placed over the hole. The box should be lined with white shade cloth, although sheet asbestos might be better, particularly on the bottom, which is near the lights if the box is small, or a strong light is to be used for a protracted period. All that is then necessary is to fit one or two electric light sockets to one side near the bottom and arrange a suitable inexpensive switch on the outside of the box for turning the light on and off. If one wishes to be more particular with the device, he can easily arrange to have a ruby light also fitted inside to burn either all the time or only when the white lights are turned off. Should two lights be used and the illumination be too strong or not evenly distributed, a sheet of tissue paper pasted on the inside over the printing frame opening will slow the light and make the diffusion perfect. There are, of course, a flexible cord and plug to be added to permit of the box being connected up with the most convenient house socket. To use, the printing frame is dropped into the opening and in it is placed a glass carrying the film and a suitable mask on which the paper is placed and the frame closed by the back as usual. One can add to the speed of this device by hinging the back to the further end of the frame and substituting a handle that can be held down during exposure for the springs ordinarily used in closing the frame. This device, of course, is not as rapid or convenient as a regular printer, but it does excellent work and the only cost is for the lamp, sockets, plug, switch and cord.—O. D., California.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

Vol. XXII

San Francisco, California, June, 1915

No. 6

That Charge For Accepted Photographs

Under the above heading a letter from that enthusiastic champion of pictorial photographers, Sigismund Blumann, was published as most fully stating the case of those who found fault with the charge of one dollar per ready-framed and two dollars per unframed (to be framed by the Exposition Committee) picture accepted to be hung in the exhibit at the Panama-Pacific International Exposition. The first result, in fact, the first three or four communications regarding this editorial to come to hand, intimated more or less strongly that our own opinion on the subject would be of interest. That we may not be accused of wishing to dodge the question, as one or two of our correspondents seem to infer, the following is submitted. Further, instead of closing the matter as we said we must do, with a reply, we shall be only too glad to consider a brief answer from either Mr. Blumann or any other reader who may feel that our position is not the proper one.

Mr. Blumann has been for some years a zealous and enthusiastic advocate of many things bearing upon the standing and advancement of photography as an art, a fine art. When he errs, it is from too much zeal. His premise is always that photography is a fine art. The deductions he makes are invariably based upon this premise. But he assumes the general acceptance of his own point of view. This is assuming too much. As it seems to the editorial mind, the pictorial photographers of this country owe it to the popular judgment and to themselves to furnish the convincing evidence and to do so at all times, not only on special occasions, as at this Exposition, but whenever occasion offers. If opportunities come too rarely, they should be created. The protestation that art can be produced through the camera will never secure the acceptance of their work as being worthy to rank with the work of artists in the more commonly accepted mediums. Neither is there any authority that might proclaim the right as being available to photography of a certain kind, and so doing, endow photography with the title of art. Photography may be an art, photographic productions may possess the power of being artistic, individual examples of camera work may have all the qualities of a picture, but the acceptance of photography or any part or portion of its product as art,—art of the kind worthy to rank with that of the painter, the sculptor, or the etcher, lies solely with the producer thereof. Admitting that there is a photography which is artistic, photographic work that is purely pictorial, photographers that can and do use their cameras in the production of pictures fitted to rank as the result of individual inspiration and appreciation of beauty or other qualities, these men have failed to impress that fact upon their fellowmen, except in quite a small and limited way. Here and there the work of a serious photographer has been shown in exhibition form, but in hardly such a manner or with sufficient frequency as to impress any important part of the public. Ask the average man, the "Man on the Street," as

our English cousins would say, and you will find that the accepted idea is based on the evidence as set forth in the show cases displayed by the professional portrait men and their brothers doing view and commercial work.

Such being the situation, can we reasonably blame the Exposition officials or any other body of men with average intelligence for failing to provide a place for pictorial photography among the Fine Arts and so entitling such prints to the prerogatives accorded etchings, paintings, statuary, etc.? Photographic prints therefore become products of a Liberal Art and the Liberal Arts are obviously practiced, not for dilettanti reasons, but for profit.

At St. Louis, some years ago, photography was accorded a place in the Art Palace. The available space was much greater than at our present Exposition, thus making, under its broader title than the present "Fine Art Palace," a place for photography, along with ceramics and other less clearly defined arts. But even this did little more than cause ill feelings between rival factions in the camp of those who at that time claimed to be the pictorial workers in photography. The experience of the management at St. Louis has still its influence, the official who found the St. Louis affair so distasteful having since been closely identified with the art exhibit of practically every exposition of any note. While we believe he bears no ill will towards photography, we can hardly expect him to enter the lists as its champion in the matter of claiming for it a recognition that it does not, except indirectly and spasmodically, claim for itself.

That photography has not sufficiently set forth its own claims to the title of an art, seems fairly obvious. It certainly has not done so in a sufficient degree to secure general acceptance as such. That being the case, why should it expect consideration not accorded all other productions not definitely classed as fine art, namely, sculpture, painting and original etchings? True, there is much justice in many of the claims made by Mr. Blumann; but, could not the same claims be made for many of the other productions included in the classification, liberal arts? Are we to expect exposition managements to differentiate between the many productions of mind and hand with which they must deal, and specify that these are to receive special consideration and those not? They could hardly do so without inviting endless and unsatisfactory discussion. And it is not by discussion of this kind that photography, artistic photography, pictorial photography, call it what we will, can best advance itself to its goal of recognition as an art with its productions entitled to that consideration accorded work in the older mediums.

Mr. James On The Coast

David James, of Burke & James, Chicago, together with his wife and daughter, paid California a short visit during the early part of May. The trip was purely a pleasure one, with our two Expositions as the objective point. Mr. James reported the ladies of the party as highly pleased with the trip and the enjoyment afforded and declared himself particularly interested in the gratifying condition of business in this territory. The ever-active sales manager of the firm, George W. Mackness, was in the city at the same time and as usual was overflowing with enthusiasm at the merits of the firm's several new lines.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Brightening Bromide Prints

J. M. Elliott, writing in *Amateur Photography*, says: The following notes apply equally to contact or enlarged bromide or gaslight prints on non-shiny-surface papers. Undesirable flatness and heaviness in the lower tones is a frequent trouble with matt-surface bromides. This comes home to us when we have made what seems to be a satisfactory enlargement or contact print of a simple subject while the print is viewed in its wet condition; but the same print when dry may appear woefully dead, dull, tame, and uninteresting. It is not only due to the dry print being a shade darker all over, but to a loss of gradation and luminosity in the darker shadows portion.

Suppose we call our white paper twenty, the delicate next lower tone nineteen, and so on, down to one, i. e. the just perceptible shadow detail as seen in the wet print. Then suppose the print "dries down" one step in this scale; our highest light, which was twenty, is now nineteen, and nineteen is eighteen, and so on, i. e. two is one and one is lost in detail-less darkness. So that we may say that our detail-less dark regions have been doubled.

Clearly, then, our line of work will be in the direction of giving the dry print the appearance it had while wet. This can be done in quite a large number of ways. It will be convenient for reference to bring these together, so that if the need arises we can make our convenient choice.

1: Gum arabic, two to three ounces; cold water, ten ounces.

2: Spermaceti, twenty to thirty grains; benzol, one ounce.

3: Terebene, one ounce; salad oil, one ounce.

4: Beeswax, thirty grains; turpentine, one ounce.

5: Water, one ounce; borax, one dram. Boil gently, and add white lac $1\frac{1}{2}$ drams.

When cold add two drams methylated spirit. Filter.

6: Waxing solution as used in carbon process for polishing temporary support.

7: Encaustic paste.

8: Vanguard Lustraline.

9: Beeswax, turpentine, oil of lavender. Equal parts.

10: White wax, one ounce; gum elemi, one dram. Melt together, and then add oil of lavender or oil of spike, $\frac{3}{4}$ ounce.

11: Paraffin wax, twenty grains; benzine. one ounce.

12: Megilp.

13: Brown boot polish.

14: Celluloid dissolved in amyl acetate to a thin, creamy consistency.

15: Japan gold size, four to five parts, and linseed oil, one part, e. g., ten drops of size, two drops of oil.

Nos. 1 and 14, apply with a camel's hair paint brush. Nos. 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, apply by rubbing with a piece of old fluffless flannel. No. 5, immerse the print for a minute or two, drain and pin up to dry.

In applying the mixture No. 15 a special process is involved. First the print is hardened in chrome alum or formalin in the usual way, and dried. It is then soaked for, say, five minutes in cold water, drained, and laid on two or three sheets of wet blotting paper supported on any flat surface, such as a drawing board covered with American cloth, or a sheet of thick glass. The face of the print is rapidly surface dried by pressing it with fluffless blotting paper. The size and oil mixture is spread out onto an earthenware tile, and a soft, square-ended brush dabbed first in the mixture and then lightly over the print. In fact, the treatment is precisely the bromoil pigmenting process, except that in place of oil pigment the oil varnish is used. This, if all goes well, only takes in the shadows, i. e. where it is wanted.

Surely it goes without saying, that the

present writer is not advocating the glazing or brightening, polishing or varnishing process as something to be done to every bromide print. On the contrary, the cases where the treatment is advisable are comparatively few in number. Like the surgeon's knife, it is for special cases only. But at times it is the saving of the print.

Although most of these brightening mixtures can be applied all over the print, it by no means follows that this must always be done. Again, on the contrary, local application may often be preferable to general application. Furthermore, it is highly advisable that any prints to which such polishing mixtures have been applied should only be seen by our friends when they—the prints, not the friends—are under glass.

Kodachrome

Those who have visited the interesting exhibit of the Eastman Company at the Panama-Pacific International Exposition will of necessity admire the wonderful collection of portraits in natural colors. It was not easy to obtain any exact details of their method of production. The following excerpt from *Photography* will afford a little additional light:

"The Kodak Company's two-color process, to which reference was made in these columns at the end of last year, is capable of giving very fine portrait transparencies, as was testified by a number which were shown recently at the Royal Photographic Society's house. The capacity of a method using two plates only to give apparently a full range of colors is very striking, and no one seeing the exhibits would have suspected at first glance how simple was the method of their production.

"For the benefit of those who did not see our earlier note, we may point out that two plates are exposed either simultaneously or in close succession through two different color screens—a red and a green. These two plates are developed and fixed, and the silver image is then changed into one of dye, the plate taken through the red filter being dyed green, and that through the green filter red, after which nothing remains but to bind them up in register.

"Examples were shown of a modification of the process, which allowed any number of copies to be obtained, and the results to be worked up, retouched, etc., to almost any

extent. For this purpose—the original negatives are not themselves dyed, but are modified as may be necessary; positives are then made from them, and from these any number of duplicate negatives may be produced, which have their silver removed and the dyes substituted as in the original method. Some duplicates that had been made in this way were on view at the Royal Photographic Society, and were every whit as good as any of the direct originals.

"We understand from the Kodak Company that the materials for this process are not yet available on this side of the Atlantic, although some American professional photographers have been supplied; but as soon as they can be obtained we have no doubt that a great many will interest themselves in the work. It is noteworthy that all the exposures have been made by artificial light—a group of metal filament lamps in a reflector with a diffusing screen having been employed."

Note: The dyeing process described above has been previously used in making lantern slides.—[H. D'A. P.]

Automatic Filtering

Filtering is a very important precaution with some solutions, but is frequently neglected on account of the time and trouble it involves. Perfect filtering through paper must be slow, hence a laboratory dodge for automatic filtering, which can be relied upon to keep going at night without any attention, is sometimes useful. Take a big bottle or large flask and fit it with a rubber cork provided with two holes. Through one hole put a piece of glass tube reaching to the bottom of the bottle or flask and projecting, say five inches, above the cork. In the other hole fit a second tube that just reaches to the inside of the cork and projects above it for six inches. Fill the bottle with the solution to be filtered and insert the cork and tubes tightly. Then prepare the funnel and filter paper in the usual way, using a large funnel and fixing it in a stand over the bottle that is to contain the filtered solution. Fill the funnel with some of the solution, and before it runs through fix up the first bottle over it in an inverted position so that both tubes dip into the solution. The bottle must be held up in some way as may be convenient, and then all can be left alone. When the solution in the filter drops down to the

A PHOTOGRAPHIC DIGEST

level of the higher of the two tubes dipping into it, air will pass up that tube into the bottle and more solution will come down the other tube, the flow ceasing when the solution in the funnel has risen high enough to block the air inlet again. The funnel is thus kept fully charged until the upper bottle is empty, and if the apparatus is set going at, say nighttime, the whole operation will be over by the morning.—*British Journal of Photography*.

Cleaning Platinum Prints

Writing on this subject, the editor of the *British Journal of Photography* says: "Owing to the absence of any gelatine or colloid surface, platinum prints have an unhappy knack of attracting and holding whatever dust or dirt may be about, and when one is brought to be copied it is often sadly degraded in tone. A safer way is to proceed as follows: Make a stiff dough of flour and water, kneading it until it is the consistency of putty and does not stick to the fingers; when in proper condition, it has an elastic feel and leaves the fingers quite cleanly. Dust the print with a soft brush and dab the dough upon it, changing the surface as it becomes dirty. This will quickly remove all mechanical dirt, and is better than bread crumbs, which have a tendency to rub off some of the platinum in the delicate halftones. If there are any stains the print may be immersed in a bath of ordinary peroxide of hydrogen of the strength usually sold for bleaching hair, then, without washing, transferring it to a ten per cent solution of carbonate of potassium, following this by a few minutes' washing in ordinary water. This treatment has no tendency to rot the paper or destroy the image. The peroxide treatment has been for many years in use for cleaning old and stained engravings, for which purpose it answers admirably. Various other methods of bleaching have been recommended, but these are mostly dependent upon the use of chloride of lime or some similar material."

Another Use For Reflectors

Photographic workrooms are not, as a rule, any too well lighted, and the average dark-room or enlarging-room contains a good many corners that are still dark even when the white light is turned on. A multiplicity of lamps is expensive, and even if we use

miniature lamps in dark corners, batteries, etc., give trouble. Some years ago, while wandering over an old Roman palace, we were struck by the device used by the attendants for lighting up the numerous dark corners. Windows are very small in Rome and rooms are large, therefore a picture hung on the wall in which perhaps the only window exists is often in approximate darkness. The attendants, however, were provided with portable sheets of card covered with gilt paper, and when they held these up at the right angle the pictures became readily visible by the reflected light. Many years later we adopted a similar idea in a laboratory where fine scales had to be read in a badly lighted room. It is usual in such cases to use miniature lamps, which are switched on as required, but instead we used miniature reflectors made of aluminium foil, and so bent and fixed as to catch the light from a single lantern at the other end of the room. This worked perfectly, and the switch for the lantern being within easy reach, the arrangement was highly convenient as well as cheap. The same idea can often be adopted in a dark-room, and especially around an enlarging apparatus, where a little extra light is often wanted to find a mislaid negative or lens stop. In our own room the lantern stands on a high, long bench, under which shelves and a table are fixed. By opening the side door of the lantern, a beam of light is obtained that can be reflected onto the shelves underneath, and so, without any trouble, all the oddments stored down there can be seen and found.

Note: The above hint and the one following, both from the *British Journal of Photography*, have practical value, as I can testify to from personal experience. In my own dark-room the lights are all arranged behind a shelf that, with the wall behind it, forms a trough with a sloping front and a narrow bottom to which the lamp sockets are attached. The light, shining upward from behind the front of this trough, is diffused downward into the room from above by means of a white cardboard reflector.—[H. D'A. P.]

Quick Filtering

As a rule solutions used in photography only need filtering to remove coarse dust particles and foreign matter, hence we can often use a quick-acting filtering medium

such as glass wool. To do this effectually we want a special funnel with a bulb in the tube just below the funnel cone. This bulb must be packed with glass wool, and it is just as well to put a very small, loose piece of ordinary cotton wool under it to catch broken glass fibers. Another similarly loose piece of cotton wool at the top is also serviceable to prevent the somewhat springy glass wool from rising out of the bulb. Thus prepared, the funnel is ready for use, and after use we need only run clean water or hot water through it for a little time to render it serviceable for use again. It is advisable to have two or three funnels of this type kept ready for use. One may be devoted entirely to hypo, and need only be loosely packed, as the dirt in hypo that we want to remove generally consists of wood or straw chips. By running water through the reverse way any chips caught can be washed out again. Another funnel rather more tightly packed can be kept for sulphite, carbonate, and sundry other developer solutions. It is worth noting that a funnel of the same form is excellent for use with paper, as it works more rapidly than the ordinary type, but the best paper funnel has a cylinder in place of the bulb, and such a funnel is quite worth its small extra cost. As glass wool acts more as a strainer than a filter its use hardly retards the filling of a bottle, and there is practically no waste of time.—*British Journal of Photography*.

Advantages of the Permanganate Bleacher in Sulphide Toning

The use of potassium permanganate in conjunction with hydrochloric acid as a bleaching bath for bromide prints, preparatory to toning with sodium or ammonium sulphide, has so many points in its favor that it seems certain to ultimately oust the ferricyanide bromide bleacher.

The main advantage is the beauty of the resulting tone, accompanied by pearliness of the high lights, generally apt to be degraded when working on the older plan. This mixture of permanganate and hydrochloric acid liberates chlorine, which attacks the metallic silver, turning it into white silver chloride. As a matter of fact, the image vanishes entirely. The chlorine further acts as a bleacher of the paper and gelatine, entirely

removing any traces of developer or fixing stain, thus making an important contribution to the brilliancy of the print.

It has hitherto been the general opinion that once a print had been sulphided, it was in the ultimate stage, only amenable to reduction, if too dark, with potassium cyanide in conjunction with iodine. Experiment has shown me, however, that the sulphided image yields quite readily to a second application of the permanganate and hydrochloric bleaching bath, and on again sulphiding the resulting tone is considerably colder than on the first occasion.

The difficulty, if not impossibility, of getting satisfactory tones when prints are of a delicate character has been readily admitted, and this method of re-toning will be found valuable in such cases.

A convenient formula for the bleaching bath is as follows: To ten ounces of water add one dram hydrochloric acid, followed by the addition of one dram of potassium permanganate solution; strength, twelve grains per ounce of water.—David Ireland, in *Photography*.

Dispensing With Big Printing Frames

Small printing frames are cheap enough, but big frames require to be of much more substantial construction, and cost a good deal, and hence it is worth while to bear in mind a useful method of dispensing with large frames. This method was advocated and constantly used by the late Horsley Hinton, who found a simple drawing-board all sufficient for printing from large negatives. His method was as follows: The printing paper was fixed by pins to a drawing-board, and three French nails were then driven into the board so that two corresponded with one edge of the negative, while the third marked one of the sides. The negative was then simply laid down on the paper and pushed up against all three nails. The negative could be removed bodily for examination of the print, and the three nails provided the three points necessary to permit its being replaced in exact register. The weight of a 12x15 negative is very considerable, quite enough to preserve close contact between paper and film, provided the drawing-board has a true surface. Even if the surface is not dead true, a pad of blotting paper or cloth under the printing paper will help to give good contact.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Making Some Interiors

An amateur friend came in the other day and showed me some of the finest factory interiors it has ever been my good fortune to see. This particular amateur is the son and junior partner of the head of the firm controlling the factory in question. It seems that the senior partner wanted a set of pictures to be used in a descriptive article to appear in an Eastern trade journal and had hired several professionals without securing what was wanted. I do not wish it understood that the capabilities of the professionals are being belittled, but this particular gentleman certainly was unfortunate in the selection in some cases, and in others the firm entrusted with the work had sent men who did not seem to rise to the occasion. The pictures were rather difficult, owing to the poor illumination, and some of the men who tried the work made the mistake of trying to hasten matters. But our amateur friend went about it in a different manner. Testing the light, he found that with a fairly rapid plate an exposure, made with a stop to give the required detail, would require an exposure of between two and three hours for a fully timed negative. He therefore decided that he would get the slowest obtainable plates, figure out the time needed for them, and then stop down further than absolutely required enough to make the exposure a full day, using a ray filter to further prolong the exposure if necessary. He borrows an 8x10 camera fitted with a wide-angle lens, sets it up to secure the proper view and opens the shutter as he leaves the factory Saturday evening. The exposure continues all day Sunday and is terminated by the watchman of the place squeezing the bulb as he comes on duty that evening. The slowness of the plate gave great latitude in exposure and good, sparkling, "juicy" negatives that made ideal prints. The junior member of the firm, while glad of the opportunity to show that his photographic knowledge could be turned to some account, was careful to explain that

the professional could hardly have worked it out in the same way, except by charging a price that would have been considered exorbitant.

Making Up Formulas

An Ohio correspondent asks which is the right way to make up a solution; to dissolve the chemical in a part of the water and then make up to the amount specified or to take the designated amount of water and add the chemical thereto. The truth of the matter is that in ordinary photographic practice it makes no difference. Were a formula such an exact matter, one would not find the different amounts expressed in the even numbers that prevail. Did the difference that would result between the two methods of compounding affect the working of the solutions, the solutions would depend upon delicate chemical reactions such as maintain in some silver solutions and the amounts would be given in fractional parts of the measures. If a solution is quite a strong one, such a fixing bath or the oxalate developer for platinum, there will be some appreciable difference in the strength between the two methods of compounding, but hardly any appreciable difference in their behavior in actual practice. Where there is danger of wrong compounding causing a difference worth mentioning, the publisher of the formula is quite sure to explain that the chemical is to be dissolved "in" a certain amount of water or that the solution is to be made up "to" the requisite bulk.

A Cause of Pinholes

Dust will find its way to the interior of any camera and a good way to stir it up and get it to lodge on the surface of the plate or film is to frequently open and close the camera while such surface is exposed. Drawing out the front of the camera sucks the dust out of the corners where it may be resting quite harmlessly and closing the camera quickly can blow it from the same innocuous position. Of course it is well to use care in keep-

CAMERA CRAFT

ing the interior of the folding camera, or any other for that matter, as free from dust as possible, but the above caution is based on a recent experience, one quite unexpected. We had occasion to loan a friend a folding camera that has never given us any particular trouble on the score of pinholes, with the result that a number of exposures made by that gentleman were literally peppered with these annoying defects. Immediately following his experience, another friend used the same camera, used part of one of the former's rolls of film, and had only the occasional pinhole that we can all expect. The reason was that the first gentleman took particular pains to hasten and fold up the camera after each exposure, while the latter did not give himself any concern on that point.

A Profitable Venture

One of our out-of-town visitors, a reader and an amateur of considerable skill, recently brought in a copy of a little booklet that he had gotten out as a piece of "boost" literature for his home town, or rather, as a means of adding to his income while at the same time boosting the advantages of his locality to possible visitors and prospective residents. The size was such that it fitted nicely into an ordinary business envelope; it contained halftone reproductions of ten selected views taken in and about the town, with descriptive matter that was quite interesting. Aside from the cost of the halftone blocks, the outlay was not large; and, such as it was, the expense was more than met by the payment made for modest little announcements of a few of the leading business men that were given space on the outside back cover. As the booklet was well printed on good paper, the local stores found ready sale for them at ten cents each, and the price charged these dealers was just enough to prevent their selling them at a lower price. Our friend explained that while he did not pose as a professional photographer, the fact that neither of the two local professionals cared to undertake other than portrait work caused him to feel no hesitation in getting out something of the kind from his own negatives. The booklet is much more acceptable than the ordinary view card, because it gives information concerning the town and explains what the pictures represent. Since putting these out, he has had requests for quantity prices from

one of the two local real estate firms and the local paper has asked him to supply pictures and material of a like nature for a special edition.

Hot Weather Developer

The problem of development in the tropics has been largely solved. Thanks to the labors of Messrs. Lumière and Leyewitz, the whole subject has received systematic investigation and the following formula can be used at a temperature of one hundred and four degrees Fahrenheit without fogging:

Amidol	44 grains
Ammonium sulphate	5 ounces
Sodium sulphite (desiccated).....	260 grains
Potassium bromide	27 grains
Water	20 ounces
Development time, three minutes.	

Removing Copying Pencil Marks

A Washington correspondent has a number of negatives that he now wants to print out to the edge but cannot do so for the reason that he titled them with their date and number in a rather bold style with a copying pencil. We are not quite sure about marks of this kind that have been made for several years, but experimenting with fairly fresh marks shows that alcohol will remove them entirely. Our friend can give this a trial, and if not successful the only other plan we can suggest is to scrape away the emulsion containing the marks, apply a new coating of melted emulsion from another waste negative of about the right density, and when this has set, further blend the part by a little retouching.

The Missouri Camera Club

At the last regular meeting of the Missouri Camera Club, held Tuesday evening, April thirteenth, Professor R. J. Wallace of the Cramer Dry Plate Company delivered a most interesting lecture on Photography in Colors, illustrating it with lantern slides of surprising merit. These regular meetings are frequently made most instructive by special features of this kind, and when so, those interested in the subject treated are specially invited, regardless of the fact that they may not be members of the club. The rooms are situated on the second floor of the Euclid Building, southwest corner of Euclid and McPherson Avenues, St. Louis.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

To Post Card Division Members

Mr. Charles M. Smyth, Director, Post Card Division, 1160 Detroit Street, Denver, Colorado, advises that while several of the members responded to the request made in the March issue for post cards for a circulating album, he is desirous of securing a contribution from a few more members before starting off the album. For that reason we would urge those members who are making and who are interested in photographic post cards, to at once send Mr. Smyth some of their best work in order that the album may be as interesting and as representative as possible.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smyth, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality, a letter "X" will be placed after the member's number, indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smyth, 1160 Detroit St., Denver, Colo.

George E. Moulthrop, Director Lantern Slide Division, Bristol, Conn.

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NEW MEMBERS.

4082—Theo. Buehler, 1534 Palmer Ave. S., Detroit, Mich.

3 $\frac{1}{4}$ x5 $\frac{1}{2}$, developing papers, of scenery and of general interest; for any kind if accompanied by an explanation. Post cards only. Class 1.

4083—Edwin S. Culver, care Oak Gas Engine Co., Oakland, Cal.

Class 2.

4084—F. S. Stear, R. F. D. No. 2, Ft. Atkinson, Wis.

Class 2.

4085—Arthur B. Pitman, R. F. D. No. 9, Box 150, Manchester, N. H.

3 $\frac{1}{4}$ x5 $\frac{1}{2}$, developing papers, of landscapes, farm scenes, and animals; for anything of interest. Class 1.

4086—D. A. Mahoney, 3713 Wabansia Ave., Chicago, Ill.

3 $\frac{1}{4}$ x5 $\frac{1}{2}$, developing paper, of miscellaneous photos; for the same. Class 1.

4087—Albert Rankin, 608 N. Bond St., Baltimore, Md.

From 3 $\frac{1}{4}$ x4 $\frac{1}{4}$ to 8x10, any kind of paper to suit subject, of portraits, landscapes, still life, architecture, and curiosities; for good portraits and anything, also stereoscopic pictures. Class 1.

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Class 2.

4089—Alfred G. Paget, Midway Island, via Honolulu, T. H.

Class 2.

4090—John W. Cook, 1117 W. Ave. 54, Los Angeles, Cal.

Stereo, 5x7 and smaller, also lantern slides.

CAMERA CRAFT

developing and printing-out papers, of pictorial and historical views; for the same. Class 1.

RENEWALS.

188X—Edward Trumann, Genoa, Neb. Class 2.

504—William A. Bixler, Anderson, Ind. Class 2.

1980—Ansel Kisner, Catawba, W. Va. Class 2.

2880—J. H. Helsley, 715 Grant Ave., Martin's Ferry, Ohio.
5x7, various papers, of general views of Ohio River and flood views; for anything interesting. Prefer post cards. Class 1.

3907—Charles E. S. Rasay, 528 Gansevoort St., Little Falls, N. Y. Class 2.

CHANGES OF ADDRESS.

3135—Charles P. Gage, care Forest Service, Magdalena, N. M.
(Was Aragon, N. M.)

3358—Asa L. Brower, care Forest Service, Kamas, Utah.
(Was Ogden, Utah.)

4044—Olafur Sigurdson, Box 494, Minot, N. D.
(Was Bottineau, N. D.)

WITHDRAWAL.

4046—W. H. Arnold, Box 31, Lester, Wash.
Lack of time.



OUR BOOK SHELVES

"On Sunset Highways"

In this volume the author, Thomas D. Murphy, has given us, as the sub-title reads: "A Book of Motor Rambles in California," a most delightful and instructive account of what were no doubt most delightful rambles through a country most delightfully suited thereto. Those acquainted with Mr. Murphy's "British Highways," "Three Wonderlands of the American West," and like volumes from his pen, do not need to be told that keen observation and an interesting and enjoyable style are combined with a wealth of information in this book. This Sunset Land is known as a motor paradise, and while the journey described does not embrace the entire State, it did most thoroughly cover that portion generally traversed by those seeking motor enjoyment amidst the historical missions and the characteristic scenery along the Coast section. There is included a map of the principal automobile roads, some sixteen color plates that reproduce paintings of California scenery, and a wealth of duogravures of photographs by such well-known photographers as Dassonville and Pillsbury, of San Francisco; Putnam & Valentine, of Los Angeles, and Taylor of San Diego. Price, three dollars net, carriage paid, three dollars and twenty cents. Three-quarters morocco, boxed, six dollars net, carriage thirty cents extra. Published by The Page Company, Boston.

"Pollyanna Grows Up"

This, the second "Glad" book, by Eleanor H. Porter, will make a strong appeal to all the readers of the first, of which over a

quarter of a million copies have been sold. The "Glad Girl" makes her reappearance in this new story, just as joyous, just as sweet and charming, only a little more grown up and lovable. The story is one that will drive away the glooms and bring the joys about in vast numbers. It is as delightful as it is interesting, and as beneficial to the tired or overworked reader as a delightful vacation. The principal character is charmingly natural, and the story refreshingly so, and the reader need fear no disappointment if he be only of a fairly normal and healthy mind, capable of appreciating the simple optimism and love of humanity which is presented in so charming a style. Price, one dollar and twenty-five cents net, one dollar and forty cents carriage paid. Published by The Page Company, Boston.

"The Princess and The Clan"

In this new story, Margaret R. Piper, the author of "Sylvia's Experiment: The Cheerful Book," has given us another most enjoyable characterization of a lovable and quite natural young lady about whom a delightful story is woven. The volume is one that will be appreciated by those who like a well written, unfolding of an interesting tale in which normal young people prove themselves both interesting and enjoyable. Although lacking in sensationalism, there is an abundance of action, and while sickly sentimentality is not in evidence there is no want of human interest and kindly sentiment. Handsomely bound, as are the volumes from this publisher. Price, one dollar and fifty cents net. The Page Company, Boston.

CLUB NEWS AND NOTES

**Club Secretaries and others will oblige by
sending us reports for this Department**

St. Louis Camera Club Exhibition

The recent exhibition of this enterprising club was a great success. On six large standing screens in the art room of the library were placed about one hundred and fifty framed pictures varying in size from small contact prints to good sized enlargements, all of them a credit to the club. The lecture given on the opening evening by Mr. Speed proved an exceptionally interesting feature, the two hundred and fifty seats provided being all filled, with about half that number of guests compelled to stand. Another very interesting exhibit was a collection of photographic antiquities such as daguerreotypes, ambrotypes, ferrotypes, wet plate negatives, albumen prints, old cameras, silver baths and other equipment of former years, together with interesting historical photographs of the early days of St. Louis. Quite a few of these antiquities were loaned by Mr. Goebel, of St. Charles, Missouri, including a rosewood camera stand brought over from France some seventy-five years ago, and one of the first cameras with which he worked. Mr. Goebel, who is over eighty years of age, although still active as a photographer, was the honored guest on the opening evening of the exhibition.

Another collection of very fine daguerreotypes was loaned by A. J. Fox, who is, perhaps, the oldest living photographer in the United States, being eighty-six years of age. The librarian, Arthur E. Bostwick, loaned about two dozen of the same kind of pictures, taken some fifty or sixty years ago in Philadelphia. The G. Cramer Dry Plate Company loaned a large frame containing albumen pictures made about thirty-five years ago by the late G. Cramer, who was at that time a professional photographer. This frame, a massive gold one about three by six feet, contained the picture of many men and women who were then, or who have since become quite notable.

The idea of this unique feature originated with Mr. Kuehn, president of the club, and the interest which it created shows that it is one that other clubs might well adopt in connection with their photographic exhibitions.

A Growing Society

On June seventh, the Cleveland Photographic Society appropriately celebrated the second anniversary of its founding in their new location, 412 Superior Avenue, Northwest. The new quarters have a floor area of twenty-two hundred square feet, and provide ample room for exhibitions and entertainments. A large dark-room has been fitted up and equipped with an enlarging camera and twenty lockers. The developing sink is large enough to permit of six members using it simultaneously. The enlarging camera will take 8x10 or smaller negatives, and can be operated without interfering with those who may be developing at the same time. The Society now numbers forty-five, the total membership being limited to sixty. An active campaign has been initiated, and there is every prospect that the Society will start its third year with the membership up to the limit. During the past year, outings have been held nearly every Sunday morning, and many pleasurable trips have been made to the picturesque points in that vicinity.

While every Wednesday evening is a meeting night, the business meeting of the Society is held on the first Wednesday evening of each month. A recent print competition among the members of the Society brought out a fine display. The pictures were judged by Samuel Evans, of Akron. John F. Lewis, one of the Trustees, has offered a Verito lens as a prize for the best picture of the Amasi Stone Memorial Chapel. The officers of the Society are: H. B. Van Tress, Chairman, and A. R. Webber, Secretary-Treasurer, 325 Electric Building, Cleveland.

NOTES AND COMMENT

**A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest**

California Camera Club

The regular election, held April thirteenth last, resulted as follows: Percy Neyman, Ph. D., President; Dr. E. O. Jellinek, First Vice-President; A. T. DeRome, Second Vice-President; Harry A. Baker, Secretary; L. J. Stellman, Corresponding Secretary; L. A. Goetz, Treasurer, and H. L. Bielawski, Librarian.

The newly appointed print committee promises well, as it has already outlined activities that will interest not only the members of the club, but a host of other photographers. Beginning as soon as all arrangements can be made, the club will maintain an exhibition of pictorial photography, the work of California pictorialists, irrespective of their club affiliation. Preferences will be given subjects of a California nature and pictorial quality will be demanded. Pictorial workers throughout the State are requested to address the Print Committee, California Camera Club, 833 Market Street, San Francisco, to the end that they may secure representation in this exhibition. A large number of visitors interested in the artistic side of photography are expected during the Exposition period and the club extends a cordial invitation to them all to visit its rooms while here.

Frederick Monsen, F. R. G. S., an old friend and former member of the club, lectured before the members and their friends at Native Sons' Hall, the evening of April thirtieth, his subject being, The West Indies and the Spanish Main. The first spring outing, in special cars, was held April twenty-fifth, the outing committee earning great praise for its success. Mr. Wise came forth in a brand new khaki outing suit and straw hat, and the result,—a flood. Mr. Piper exposed a dozen plates in English, developed them in French, dried them in some other language and in consequence found it impossible to interpret the results.

On June sixth there will be an excursion to Yosemite Valley, personally conducted by

club members, with headquarters at Camp Curry. It promises to be one of the most delightful of the club's many successful outings to that natural wonderland.

Reported by William Wolff

Ludwig Pokorney is still with the Bushnell Studio at Portland.

The Cuthberth Studio in the Telegram Building, Portland, is certainly a very fine one.

Boussum, of San Francisco, is now operating a new studio in Fresno.

Maxwell "25's" are becoming very popular among the photographers. Archie Henline, of Klamath Falls, is the latest purchaser.

C. A. Miller was, as usual, fixing up his machine and could not give me the promised order. Says: "Next time, sure." Will try him again at Klamath this fall.

Don't forget the National Convention at Indianapolis, July nineteenth to twenty-fourth. The writer will be there with a display of Probus products.

Guy Hess, of Eureka, has a son. Not the "sun" so essential, but some son just the same.

The fishing season has opened in Humboldt County and Joseph Thompson got the first ten-pounder.

Frank Hennies is doing home portraiture in Eureka.

Both Hemminger and Zink, of Chico, are busy doing graduation work.

"Teddy" Muller, of the Halloid Company, passed through this city on his way to Paso Robles with his mother, whose health is poor.

The 1915 Kodak Catalogue

If possible, the new edition of the ever-interesting Kodak Catalogue is handsomer than its predecessors. Both the cover design and the frontispiece are photographic studies of exceptional merit, although entirely different in their character. Eight styles of the popular Autographics are pictured and described as well as Autographic backs made

NOTES AND COMMENT

to fit a variety of the existing Kodak models. In addition the Panoramic Kodak and the full Brownie line come in for attention. Shutters, lenses, printers, illuminators, enlarging cameras, tripods and a host of other equipments are described; in fact, the book is a veritable mine of descriptive matter and pictures of what the amateur may want in following out his photographic activities. Copies can be obtained from all dealers or by applying directly to the Eastman Kodak Company, Rochester, New York.

The Woodworth Exposure Meter

There is a new small advertisement in the front of this issue calling attention to the improved Woodworth Exposure Meter that has been found so satisfactory by a large number of camera users. This new meter is even more simple and better than the original one put on the market last year, and orders are coming in from all over the country. The meter gives the correct exposure for interiors or other poorly lighted situations, where other meters are sometimes unsatisfactory, as well as giving the correct exposure for all outdoor subjects at any time of day, doing this without any adjusting, any calculating or bother of that kind. The price, twenty cents by mail, is so low that every reader should supply himself with one of these admirable little devices by sending that amount to the Woodworth Machine Company, Angola, Indiana.

The White Summer School

The sixth summer session of the Clarence H. White School of Modern Photography will be held at Seguinland, Maine, from July fifth to August fourteenth, inclusive. Individual instruction and the personal supervision of Mr. White, with the delightful surroundings afforded by Georgetown Island in Sheepscot Bay, on which Seguinland is located, form a combination that should tempt many of our readers to write for further information. This last will be gladly furnished by Clarence H. White, 230 East Eleventh Street, New York City.

The Full Simplex Line

Our local friends and those visiting the Exposition are reminded that at the booth of the Simplex Photo Products Company, near the southwest corner of the Liberal Arts Building, they will find a full and complete line of that firm's goods. This includes

the Alamo and the Precision cameras, Simplex Projectors, Multi-Speed Shutters, and other new goods that are attracting much favorable comment from photographers throughout the country. In addition, the booth is in charge of Emu Lion, the firm's special representative, a gentleman who is only too glad to answer any questions or show any of the many interesting photographic goods manufactured by the firm.

The New Professional Rexo

This new paper is made in three surfaces, matt, semi-matt and buff, the first two being supplied in both single and double weights, while the last is supplied in the latter weight only. In speed, it is six times slower than normal Rexo, owing to the difference in the composition of its emulsion, the result of much study and painstaking research work by the manufacturers in their efforts to produce a paper suitable for professional portrait work of the finest quality. It has been placed on the market only after the most rigid tests by the manufacturers and by a number of the highest grade studios in Chicago. We ourselves have recently used some of the semi-matt in single weight and the matt in double weight, and can unhesitatingly recommend it as a developing paper that possesses remarkable latitude, and one that gives the finest gradation, either developed for warm blacks or toned to sepia, which last is easily achieved by the most simple methods. We would advise all our readers interested in a paper of this kind to give it a trial, and should it not be obtainable of their dealer, a letter addressed to the manufacturers, Burke & James, Incorporated, 240-246 East Ontario Street, Chicago, will bring particulars and information covering the full line of Rexo papers. Marsh & Company, 712 Market Street, San Francisco, have been appointed wholesale distributors in this territory.

Change of Name

The agency for the Lumière-Jougla Company products, heretofore known as the Lumière-Jougla Company, will hereafter be vested in R. J. Fitzsimons, whose address is the same, 75 Fifth Avenue, New York City, and who will supply these well-known products as before. Mr. Fitzsimons is sole United States agent for the Autochrome and other Lumière-Jougla plates, as well as the papers and chemicals of that firm. As he has been

connected with the firm for a considerable period of time, those entrusting orders and the like to him can rest assured that prompt and careful attention will be given thereto.

The New Rexo For Enlarging

We have recently made some enlargements on normal or Green Seal No. 2 Rexo, and are greatly pleased with the fine gradation and good quality of the prints secured. The Green Seal used is suitable for both weak and normal negatives, and was used on one or two that were very thin and ghostly with most surprising results; in fact, results that, had it not been for the beautiful prints secured from the normal negatives, would have led us to believe that the paper was made particularly for weak negatives. The other grade, the Olive Seal, is intended for soft effects from hard, dense negatives, and if as satisfying in that direction as was the Green Seal that we used, is exceptionally satisfactory. Both grades are made in three surfaces, matt, semi-matt, and glossy, all of which can be had in single or double weights, while a fourth is a beautiful buff or india tint that comes in matt surface and double weight only. The paper has great latitude in both exposure and development, and, judging from the prints secured on the particular grade and surface used, the gradation is exceptionally good, preserving as it does the purity of the high lights with good transparency and detail in the shadow portions.

We would advise such of our readers who do any enlarging, to give this new paper a trial, as we feel quite sure that it will meet with the approval of the most exacting workers. It will be found on sale in nearly all of the stock houses throughout the country, and it is manufactured by Burke & James, Incorporated, 240-246 East Ontario Street, Chicago, who will be glad to send descriptive circular and prices. Marsh & Company, 712 Market Street, this city have been appointed wholesale distributors for Rexo papers, and have a large stock available in all grades.

The New Ansco Catalogue

This new catalogue, a brief mention of which we made last month, contains many new features that should have the attention of our readers, and we trust that none of them will neglect to secure a copy from the nearest Ansco dealer, or direct from the

Ansco Company at Binghamton, New York. The round-cornered aluminum Ansco series of folding cameras comprises three classes, fitted respectively with symmetrical, f-7.5 anastigmats and a still faster or f-6.3 anastigmat, these equipments being fitted to the three different sizes in each of the three classes. Each of these equipments comprises shutters having high degree of merit. There are fifteen models, ranging in price from fifteen to fifty-five dollars, thereby offering a wide choice.

The new vest pocket Ansco is one that should appeal strongly to all workers, particularly at their modest price, ranging from nine to twenty-five dollars. The Buster Brown series is the most inexpensive line, its prices ranging, for the four sizes, from two to five dollars for the box form, with the four folding models in the same size ranging in price from six to twelve dollars. A novel piece of apparatus is the Ansco Amateur Printing Machine that was first listed in the 1913 catalogue, but which should have attention as well. The new Ansco Film Pack is essentially different from other packs on the market and should interest users of that type of camera, particularly the perfect focal plane that it presents, which users of anastigmats cannot fail to appreciate. This Film Pack can be used in any film pack camera, or, with a suitable adapter, in any plate or film camera. It is loaded with the Ansco Speedex color value film, which is claimed by the makers to have stereoscopic qualities found in no other emulsion. The catalogue also describes the several grades of Cyko paper and the Ansco line of standard chemicals.

New Bargain List

We have just received one of the new or No. 19 Photographic Bargain Lists issued by the New York Camera Exchange, 109 Fulton Street, New York City, and would advise our readers looking for bargains in second-hand cameras, lenses, and other photographic goods, to send for a copy of this very complete thirty-two page list.

Illinois College of Photography

B. Johnson, a former student, now in the engraving business at Savannah, Georgia, writes that he is getting along nicely.

A. G. Sten, proprietor of the Sten Studio of Dubuque, Iowa, has returned to his home after taking a post-graduate course at the College.

CAMERA CRAFT



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CALIFORNIA

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the photographer,
pictures that compel
admiration from the
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It has taken CYKO fifteen years to evolve and
attain the quality and character which mark the
highest standard all over the world.

The professional photographer demands that
standard today. The public recognizes it in
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The wise photographer—the successful photog-
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Ansco Company

Binghamton, N. Y.





A CHILD PORTRAIT
By F. E. CRUM


CAMERA

CRAFT


A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor

CLAUS SPRECKELS BLDG.

SAN FRANCISCO

CALIFORNIA

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Creating a Demand for High-Grade Photographs

By W. Clement Moore



A prominent manufacturer recently remarked that a demand could be created in America for almost anything that would be imagined, whether it be useful, ornamental or absolutely valueless. In some respects, he was right, for it is true that the constant advertising and exploiting of a product will soon create a demand for it.

Many professional photographers have inquired as to the best methods of bringing about the production of better work in photography, and in such a way that the people will have a desire for that kind of work, instead of the cheaper grade. A few have solved the problem and this has led others to try to develop a trade or clientele among a class of people who will demand the best work and be willing, of course, to pay the best of prices.

But it must be remembered that the great middle class in America is the class of people which keeps the wheels of progress in motion. Members of this class are people of education and refinement in many cases, but not rich. They know and appreciate the highest productions of the photographer's art, but they cannot afford to pay the highest prices.

How can the photographer who is at present catering to this great middle class develop trade in the high art of photography and at the same time hold his custom?

Well, there is an opportunity, but it must be carefully managed. First, one must not think of discontinuing the cheaper work if that trade is already established, and supplant it by high-grade work at fancy prices. That would not do at all. A much better plan would be to figure out, if you can, about what your

CAMERA CRAFT

customers are willing to pay for photographs at a sitting. Suppose this amount happens to be two dollars and you are in the habit of giving a dozen ordinary photographs, with slight retouching, for that amount. Now the campaign for higher-grade work may be started by offering each person a choice of one dozen of the usual photographs for two dollars, or four of the very best work for the same sum. You will find many who will choose the latter, and of course their friends and relatives will press them so hard for copies that they will eventually order a dozen or more.

But in order to secure orders for these photographs in preference to the others, you will need to take the time to educate the people up to an appreciation of the value of such work. So, when persons come to your studio whom you believe to have the means to use the best work all of the time, it will pay you to show them clearly the points of superiority in the finer work; tell them where the extra care is applied in finishing and retouching; compare samples of each; tell of the better class of materials used, etc. Lead them to understand that they are getting full value for the extra money and will have a photograph to be proud of; show them that you are interested in the high quality work; but be careful that you show no lack of appreciation for the cheaper work, else your argument in favor of better work might discourage them from using either. A certain amount of diplomacy is necessary in managing the matter, but once you begin placing the best work in your community, the demand for it will steadily grow and you will soon be pleased to note that it has been the means of adding not only to your income, but to your popularity as well.

In carrying out such a campaign for better photography, you must not, of course, neglect the various avenues that are open to you. Your newspaper advertising, for instance, should contain positive statements concerning the two grades of work, with the various explanations and comparisons as suggested above. Circulars and booklets should also be issued as frequently as the size of your business will permit.

Gradually you will be able to select the names on your mailing list and make two distinct divisions, placing in one division the names of those who are patrons of the best work, and in the other those who prefer the less expensive grade. This list will then be of the greatest possible value to you both in circularizing and in general advertising.

In the same manner the public may be educated to the habit of securing photographs of a special nature or design, as well as of quality, and special designs and ideas are always business builders, because they not only bring new trade, but they bring recent trade back again. It is something like a lady with a new dress; no matter how new or good it may be, if the style is not up to date, the dress loses its value. Thus, if you can create new styles in photography once a year only, then you will be able to build your business rapidly.

Feature such things in your windows, too; and do not neglect the tasty little window cards and decorations which add to the attractiveness of your display, at the same time making prices and qualities clearer.

There is an art in keeping alive to the possibilities of your business and making it productive of all there is in it.

The Nude, Its Vindication

By George D. Jopson



Illustrations by Miss Kate Smith

Taking up this subject only after giving it much thought, I still have some hesitancy in attempting that which is worthy of a more practiced pen. However, as I am not myself a practitioner in this particular field of photography, I feel in a position to treat the subject from an unbiased standpoint. As I see the matter, our different opinions on the subject are mainly due to our different mentalities, these last influencing our opinions, our convictions. If one looks at an object through a yellow glass, his neighbor looks at it through a red one and yet another views it through a green one; their individual impressions do not necessarily imply that the color of that object be either yellow, red or green. Each has seen it only in the color thus created, independent of the object's true color, and each is ready to affirm his convictions as to the color thereof as seen through the glass employed.

It is an indisputable fact that the mind of the average American is dominated by a form of prudishness, a form not far removed from that which too often becomes the handmaid of immorality. The average American-born child has so much "thou shalt not" or "must not" drummed into him that, as he advances to an age of understanding, things that to his mind should be pure are distorted into appearing base, thereby becoming productive of thought that can but degenerate the mind. The mental glass through which the mind perceives should be as of pure crystal, and, being so, all



THE BLACK BOY'S HEAD

CAMERA CRAFT

things in nature are understood and their purity properly appreciated.

The human form is nature's master stroke; and, to the pure in mind, nothing is more beautiful than a healthy, perfect human form. It is the most beautiful thing in life, and yet, the exposure of it is regarded by many as being entirely wrong. To a pure mind, one unspoiled by artificial conventions, the fallacy of this must be obvious; but so many minds are biased by prudish training that there is a prejudice to be overcome by those more normal and wholesome in their thoughts. Should not the mind be taught to look in a natural, innocent way upon a picture of a natural human form or upon the undraped form itself? The picture of a nude child is accepted without protest, but the prudist will not tolerate the more mature figure. We accept, without being shocked, the Venus de



A LITTLE ELF

Milo, Greek nymphs and fauns dancing as on a Greek vase, but some of us can find only wrong in other but slightly different presentations of like subjects. Where do they draw the line?

The distorted, the unhealthy mind is ever ready to find, if not to actually seek, concealed suggestions in many things that are entirely innocent of wrong. A friend of mine decorated the walls of his reception room with a beautiful display of draped studies; but, owing to the remarks made by some of his visitors who evidently possessed rather distorted minds, he was compelled to take them all down. The humiliating truth, we must admit, is that the average American understands art but little and appreciates real art far less. It has been said that America can



HALF AFRAID

THE NUDE, ITS VINDICATION



THE WAY OF THE FAIRIES

never become eminent as a nation of art lovers because realism is here too strongly opposed to idealism. The query suggests itself, can any effort or power drag us, as a people, out of our shell of prudishness? What can be presented that will teach us to distinguish between the lewd, the prude and the nude? We must admit that there is something wrong, something the matter, in the mental process of the man who gives his time to the seeking out of the prurient: but what can be done about it? We cannot consider every case alike. He is pos-



FOR ME THE BIRDS COME OUT TO SING

CAMERA CRAFT

sibly sincere in his views, the result of looking at things through the mental glass of artificial conventionality instead of through one of pure crystal. Again, the offender may be a dollar or notoriety seeking professional reformer, one of a despicable class that does more to demoralize our social structure than the efforts of our sincere workers can do to build it up. Races accustomed to the sight of the natural human body are rarely if ever corrupt; but our people, inclined to prudishness, elect to strain at a moral gnat and swallow a camel.

To the mind unhampered by prudishness and given to serious thought, it is not easy to comprehend that the nude in art,—I said nude in art, not naked pictures,—should uplift the normal, healthy mind rather than drag it down into the mire of obscenity. One must possess a very low psychology indeed to construe this beautiful class of work into something suggestive of lewdness. It is monstrous to think or suggest that truth or beauty should be deliberately misunderstood that it may satisfy the perverted minds of those who are looking for evil in all things. If such be possible, through perverted ideas, those ideas should be changed, not the creations of art. Such a mentality, one so steeped in ignorance and barbarism that it sees only evil in the unadorned human form, certainly belongs to the darkest periods of the middle ages.

In my article of appreciation of Miss Kate Smith's work, in the last issue, I promised that I would use some of her figure studies to illustrate another article then in preparation. As promised, I have selected some of her poetic figure studies to illustrate this article. Why? For various reasons. The foremost reason is a desire



PLAYING WITH THE REFLECTIONS

to acquaint the reader with the charming personality back of these pictures, that of the lady whose work they are. Miss Smith possesses a noble character, one so pure and sincere as to be beyond reproach. Her own church entrusts some twelve or fifteen young girls, girls at that age at which their minds are most easily moulded for good or bad, to her care for spiritual guidance. I know that

THE NUDE, ITS VINDICATION

she is loved and respected by her pastor and his family as well as by all who are privileged to know her personally. I know that her work, employing as it does the human form to express artistic thoughts, is not done in a clandestine manner. I know that both her methods and her aims are as an open book to both her immediate friends and to the world at large. Her sincerity of purpose and her high-minded adherence to her ideals have only strengthened the respect in which she is held by those privileged to know of them, as they have won the admiration of those privileged only to study examples of her sentimental idealizations of the human form. Such work, at the hands of one possessing originality, poetic feeling, fine judgment and the power of selection, becomes highly artistic, but I would admonish a person lacking in these necessary attributes to leave it alone and confine his efforts to less exacting lines.

It is not my intention to discuss individually the illustrations that accompany this article. They have that rather elusive or indescribable quality or charm so hard to analyze or dissect. It is much better that I should leave their reason for appeal to the imaginative faculty of the individual reader, that each may profit in his own way there-



TWO LITTLE WOOD SPRITES

from. But, considering them as a whole, I believe I may be permitted to pay this tribute to their author, who, while yet an admirable technician, also displays a genuine picture-making ability of the highest order. Her work shows the possession of a personality that secures for her the confidence of her subjects as well as the ability to grasp the character that lies beneath outward formality and bring it forth in trusting obedience of her will, with the gratifying results that she not only produces real pictures, but creations of photographic art.

Is the nude in art demoralizing? The answer depends entirely upon the mental and moral status of the individual. Some cannot, I am ashamed to say, look upon work of this kind without a demoralizing thought, much as a certain class of men find it impossible to pass a lager beer sign without feeling a desire to take a drink. Simply because some men succumb to harmful indulgence over a beer counter it does not follow that all men are intemperate. This thought



A VISION

seems alike applicable in the consideration of our subject. Simply because some are so debased or intemperate in mind that they cannot look upon the portrayal of a nude figure in all of its beauty, it does not necessarily follow that all men are possessors of impure minds.

In closing, I would admonish you who contemplate taking up this branch of photography to first make a critical self-inspection, make sure that you conscientiously believe yourself capable in all respects of undertaking such work; at the same time considering most seriously the words of St. Paul in his epistle to Titus, which, chapter 1, verse 15, reads as follows: "Unto the pure all things are pure; but unto them that are defiled and unbelieving is nothing pure; but even their mind and conscience is defiled."

It is singular that though there is no lack of those who will predict the future, when the present is concerned—the present that we see and feel—our opinions about it are, in general, all bewildered and mistaken; and yet without this acquaintance with the spirit of the age in which we live, whatever our culture, and whatever our opportunities, it is probable that our lives may prove a blunder. The necessity of this knowledge pervades the whole business of life; at times it may not be right to follow it, but there can be no doubt that success in life depends a great deal on comprehending it.—DISRAELI.

The Small Town Studio

By F. E. Crum



With Illustrations by the Author



THE KODAK GIRL

FIRST and foremost, one should both work and study constantly, always striving to do better work, regardless of how long he has been at the business. One must read, read, read, reading any and all of the photographic magazines, particularly those journals that deal with the actual every-day work of the studio. The man who will work hard will have no time to loaf, as there is always something at which one can be busy; in fact, I, with my small business, find I can never quite get through, there being always something that I should like to do.

Secondly, one should do good work and be very neat and careful in doing it, having a system of work and following it. I have certain days for printing, others for enlarging, certain times of the day for developing films and plates, another for printing proofs, and so on. In this way I can promise work for a certain day and hour and have it done at that time. So doing counts for a good deal with one's customers, as people like to know that they

can depend upon what one says and that he keeps his promises, two things the photographer should always do. I once had an experience that showed me how important this matter really is. I promised some work on a certain date, giving myself reasonable time; but, during a cold spell that followed, all the pipes in the building were frozen and it was a week before they could be fixed. In addition, the making of certain folders that I had ordered was delayed and I could not get them. The customer came on the designated date and I explained to her that the plumbing in the building was frozen up, but I would have the work ready in a week. if she would then call. But the folders failed to arrive, and when she came the second time and did not get the promised prints, she was quite indignant and in no gentle manner voiced her dissatisfaction. As there



QUEEN OF THE HOME

happened to be other customers present, the situation was one that I should have liked to have avoided. In this particular case I could not have done otherwise; still, it shows how one's business can be failing to do what one promises, to say nothing of the harm that a dissatisfied patron can do by reciting her grievance to her friends.

My sister works with me, and as we have a system in printing, the work progresses like clockwork. Everything used, including negatives and paper, is laid out in the same order and in the same place every time we work, so that in printing she can reach everything without getting up, while I sit a little further along at the bench and develop the

prints. Then, as she finishes printing, she takes my place while I put the prints already developed into an acid bath from the fixing tank. Then the lady has only to get up to put the prints into the washing tank. One can see that we can work very fast and still do good work, and things do not go wrong very often when one has a system and uses it day after day. However, I do not allow myself to become satisfied, but try at all times to improve on my system, and find an easier or quicker way of doing any part of the work. My dark-room is small, but by careful arrangement to suit my way of working, I save many steps, and really do not see where there would be any advantage in a larger room. The lamp for the ruby light is outside of the room, and careful attention has been given to the matter of ventilation.

In enlarging I also work seated, putting the negative in focus, doing my vignetting and all dodging, while my sister adjusts the easel to get the desired size. Things are so arranged that I have only to turn around to develop the enlargements, rinse and put them in the fixing bath, if they are not too large. I generally use printing frames for holding the standard sizes of paper, as I find so working much quicker than using pins. Speaking of enlargements, I should advise every small professional to equip his studio with a suitable outfit for the work. He will be surprised at the money he can make out of it by doing enlarging for amateurs. For this work I charge more than do most of the supply houses, but I use better mounts and do the best work that can be done, work one can hardly tell from contact prints. I got one of Gray's Parallax Lamps,

THE SMALL TOWN STUDIO

costing eight dollars, for 5x7 negatives, and find it excellent. I never have the least trouble with it and using my view camera with it, it gave me an inexpensive equipment that earned its cost the first few times it was used. One should be always trying to get a system into his work, as so doing will make it easier and make the work better. Do not think I am lazy for sitting down as much as possible in doing my work, for my health compels me to do so; but still I think a perfectly well man would find it more easy if he adopted the same plan.

Thirdly, one must treat everybody square, try hard to please them and be very pleasant when a resitting or any other work that he is asked to do is being done. No matter if one is a little out of pocket in doing so, the main thing is to let people know an effort is being made to please them. In fact, one should strive to make the people like him by trying, when things are not right, to make them so and as near as possible doing the right things by them. I always talk to the children and make quite a time over the babies, winning their good will and friendship if possible. In posing grown ups, I generally put the seat I am going to use in place for them at once, and then ask the subject to be seated. I then place the light controller and reflector in position, talking to the



"YOU CAN'T FOOL ME SO EASILY"

subject while doing so; and then, by the time I am through, I find they have placed their hands and are themselves in a natural position. In my cheaper work I use one particular chair and find that each subject will sit a little differently and place his hands in a position that is natural to himself. When I find they have assumed this natural pose, I stop working with the screens and ask them to just sit the way they are while I am focusing; and then, before they know it, the exposure is made, working as I do with a silent shutter.

I have three display cases; one in hallway for my high-priced work, one large one outside my door for view work and anything new or of public interest, and a smaller one for samples of my post-card pictures. I admit, it is some trouble to keep these well filled and to change them very often, but I make it a

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HOME PORTRAITURE GENERALLY INVOLVES THE KIDDIES

rule to have a new display in one of these three every week or two, although this last may consist of the changing of but one picture in a case. When a customer comes in, I try to get an idea of the style of picture wanted, and about how much he wants to pay. This I try to do without getting a definite statement so that the customer will not feel that he can accept only a certain style, or that he must not pay any more than a certain price. I, of course, show as high-priced pictures as I dare, but never try to urge them to go over a price they may have decided upon. While talking over these matters with the customer, I am studying and observing in an effort to decide upon the best pose and lighting to minimize any shortcomings that may disclose themselves. This few minutes' talk with the customer gives me a decided advantage over the operator, who does not see his subject until ready to make the picture under the skylight.

Lots of beginners, and even experienced men who own studios, get the idea that they cannot learn to do retouching. I could not retouch when I got my studio and never had a real lesson in my life, but found out that I had to do



SOME EVERY-DAY WORK OF A SMALL TOWN STUDIO

THE SMALL TOWN STUDIO



AN OUTDOOR STUDIO WITH ACCESSORIES

such work, whether I wanted to or not. By studying at it and practicing every day, one can learn to retouch with a very little trouble. The best pencil to use when learning is a 3H, but as one gets experience, a slightly softer or 2H should be used; in fact, the softer the pencil one employs, the better. When one comes to fill in transparent places, the softer pencil will permit of more lead being put on. I would advise the beginner to make or secure a negative carrying a large head, as so doing will show the defects plainly and give a better idea of how they may be removed. One should first clean up or touch out all small dust spots, as they are the easiest to see and the easiest to fill up. This done, the eye will detect other and larger spots that are less transparent, but these one must learn to bring up to the necessary density. This is best done while carefully going over the place with small zigzag lines, just as one would do in covering a spot in a bromide enlargement with the pencil.

The best negative for retouching is one that is fully exposed and not developed too dense, one with good modeling. If a negative is under-exposed, there is little modeling, and therefore a lot of work is required. The beginner at retouching should take a proof, from time to time as the work progresses, in order to see if the desired result is being achieved. Bear in mind that the face is a curved surface, and aim to so work as to get roundness. In my own practice I have acquired the habit of occasionally turning the negative, and find this practice a great help. I would advise the beginner to secure a retouched negative and study it; and, although one may not be able to see how the strokes are made, the desired effect can be studied, and one's own particular stroke adapted



WHY DOESN'T HE BRING THAT MACHINE BACK?

to the purpose. The beginner will no doubt have to remove the retouching and go over the same negatives several times before getting them as wanted. One should not at first work too steadily, but get up and do something else, and then return to it again. The best plan is for one to follow the practice of doing a little every day until proficient, as this last is really only a matter of practice.

Studying a good book on retouching helps, but as advised, the main thing is practice. Let one try and practice and it will all come to him quite naturally. In the same way one will acquire the ability to etch his negatives as Mr. Snyder advised in his recent articles. I can retouch my own negatives quite well and I never had a lesson or the help of some one to show me. This puts me in mind of one of the most important things in the studio, and that is the proof retouch of all negatives, something that will save the photographer a lot of trouble and work. I found this out during the first year I was in business, so one should be sure to do this if he has not already learned his lesson.

There are lots of photographers who sneer at amateur finishing, but I can find in it a large source of revenue. It brings lots of people to one's studio; and, by getting to know them well one will find that it pays to tell them all he can as to how to get good results. I get no small amount of business through them, as they always try to send work my way. I always show them any new work that I have made myself, as it interests them and it helps me in getting trade from them and their friends. I also do quite a little outdoor view work; in fact, one in a small town has to cover the entire field and the variety of work is surprising. I do all the work of the New York Telephone Company for miles around, but I found that I could not give too much time to the view end of the business without neglecting the studio, so I have decided to attend closely to the studio and confine my outdoor work to calls, and those only at a certain price.

THE SMALL TOWN STUDIO

I have a Ford car, so it does not take very long to go anywhere and secure the desired negatives.

There is one branch of the business that I am trying to push, and that is home portraiture, as I like it very much. While it is profitable and very interesting, the work presents no little difficulty. While I have taken many such pictures, including groups of children, I never use flashlight in any form for this work. For home portraiture I generally use my regular $6\frac{1}{2} \times 8\frac{1}{2}$ view camera, although my 4×5 Korona V fitted with an excellent lens comes in quite handy, particularly as one can now make enlargements that are hardly distinguishable from contact prints. When the order is for cabinet size, or 5×7 , the large camera is used, as it does away with enlarging in such cases. The fastest lenses are necessary for home portraiture, and one of medium focal length

will be found most generally useful. I use a lens of ten and one-half inches whenever the available room permits. A tripod stay will be found practically indispensable if one wishes to avoid the difficulty of the camera slipping when putting in plate-holders and the like. There are several excellent stands advertised, especially for home portraiture, and if I were doing enough of that kind of work I would not only secure one of them, but the complete 5×7 home portrait outfits, as advertised.

Unless some particular place has been selected, I pick out the best lighted part of the room and use a strong white reflector; and, using f-6.8 and fast plates, giving exposures of from one-fifth to a full second, sometimes using the next smaller or f-8 stop. True, my plates are sometimes a little under-exposed, but that is better than too much movement. I think the demand for this class of work is on the increase, as I find a gradual although slowly increased demand that will eventually exceed that for studio work. I trust the above suggestions, based on experience, will be a little help to those who are thinking of starting a studio. If they should prove so, I am indeed glad and feel that in the writing of this I have expressed, in a way, my thanks to all those who have themselves written the many helpful articles on photography without which I would never have learned sufficient to have entered this profession.



A GIRL OF NEW ENGLAND



The Use of Ready-Prepared Developers

By L. J. Watson



I might as well explain right at the start that I am only an ordinary amateur, I am led to believe one of a vast army, by the frequency with which I run across others who seem to be doing about the same things with their cameras. We take quite a few pictures in the course of a year, doing it by fits and starts perhaps, but deriving a vast amount of pleasure therefrom. The sum total of our results we do not gloat over to any great extent, preferring to get our consolation out of the satisfaction derived from the efforts made and the anticipation of results yet to be achieved. We are not particularly anxious to earn reputations as artists; we do not aim to master photography in all its details; we have no great craving to become fully versed in chemistry, optics, or any other science. All we want is to gratify that universal desire to produce a picture of those scenes and subjects which interest us, to gratify the same desire that has always led the animal man to attempt the graphic delineation of objects around him. In the camera we find a most satisfactory instrument for gratifying this desire; we could hardly ask for a better. Let us follow our own individual inclinations and not be disturbed by the thought that our productions are not works of art, that they have little interest for other than our immediate friends, that perhaps they are not worth the cost of the material necessitated in turning them out.

Perhaps this last phase of the subject is about as disquieting as its two predecessors. Even if not given so much importance, I feel quite sure that a suggestion as to how the cost may be reduced and the trouble minimized will meet with the approval of no small number of my fellow readers. For this reason I will try to explain why I am such a warm advocate of the ready-prepared developer and other photographic preparations, and why I find them more desirable and more economical. What real argument can one offer in favor of buying the separate chemicals and mixing up his own developer? If it is possible for the worker to make all his chemicals "come out even" so that there are no parts of bottles or other packages to deteriorate and either cause trouble when used later or else have to be thrown away after cumbering his shelves for months, he might argue that he saved a little money, the difference between the cost of the separate chemicals in pound or smaller packages and the cost of the powders. But in case he can use them under such favorable conditions he would only save a reasonable amount that the maker of the ready-prepared article charges to cover the preparation of the powders, tabloids or whatever he may put out. There is a profit made on the separate chemicals as sold the worker, just as there is on the powders or other form of prepared developer. The manufacturer who puts up the ready-to-use article buys in large quantities, buys with care as to quality, uses and mixes under the most favorable conditions, and easily earns the slight additional cost he imposes for the work.

THE USE OF READY-PREPARED DEVELOPERS

Even if the worker does save this cost of preparing and does so without entailing the loss all workers seem to have through the deterioration of unused chemicals, can he really say that the saving is even a fair wage for the time consumed?

And another angle on the situation; can the average worker buy with the same certainty that he is getting the right article of the right degree of purity, throughout the list of chemicals required? Can he be satisfied that his method of mixing and combining them is in any degree as uniform and certain as that of the manufacturer with every desired laboratory appliance needed? Can he feel that the formula he is using is as good as that of the manufacturer who has been constantly on the watch for suggestions from his many customers for a period of many years? Hardly. He would be much more reasonable were he to apply himself to the manufacture of his own cameras, for example. He would at least avoid the danger of spoiling otherwise good pictures in the making as one does in mixing up his own developer and other solutions.

When I first started out to expose plates in the hope of later being able to make presentable prints therefrom, I persisted in the idea that there was some special formula or some particular method of tentative development that enabled the more knowing ones to secure a larger proportion of printable negatives. This idea was in part due to the wise look and air of mystery that the professional who did some of my developing seemed to pride himself upon. Later I convinced myself, by the slow and costly route of experience based on experiments, that all one could do was to use a well-balanced developer, said developer being quite simple and quite common in any formula sheet or instruction book. Time development and the tank, through their uniformity of results, banished the idea of some mysterious method of tentative development. Then I easily reasoned a little further and decided that in the interest of uniformity and exactness I could not do better than use a ready-prepared developer. And this I have done for the last five or six years.

When I pick up a volume like the "Wellcome Exposure Record" and find that well-known photographers who visit the Arctics, who go up in balloons, who make negatives that are really worth while, prefer to risk their exposures in solutions compounded from the well-known "Tabloids," I say to myself that such are good enough for my purpose. When I find other good workers perfectly satisfied to risk their cherished exposures, exposures that have been waited for for weeks, perhaps, to the gentle mercies of the Eastman Powders, even accepting them as more reliable than any developer they might compound themselves from the same formula, I feel that my position is a sensible one. In my own work I use almost exclusively the well-known "Celeritas" developing powders so long marketed by Doctor Mitchell, of Philadelphia. Living as I do in a small town that does not boast a photographic stock house, I am compelled to order all my supplies by mail. Ordering by mail, one seems to prefer to order directly from the manufacturer. Not that the others cannot be so ordered, but the manufacturers of "Celeritas" seemed to "belong" more intimately to the mail-order buyer. At any rate, the developer in question, one of the three excellent ones made by the same firm, has given me the best of satisfaction and I have been loath to change, even to the extent of trying either of the other two excel-

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lent developers they make. I know they are excellent because I have recommended Celeritas to others who were not satisfied until they tried all three. It seems to be much a matter of personal liking for some special one of the three. Some prefer the Autogen, while others swear by the good quality and convenience of Snap, the firm's latest production.

My main regret is that I did not use Celeritas or some other developing powder from the beginning of my photographic experience. Had I done so, I would have learned the little there is to be learned concerning exposure and following operations much quicker. Using a developer of my own compounding and changing around from one formula to another, I never knew just where to place the blame in case a negative turned out badly. Lack of success might be due to wrong exposure or it might be blamable upon a wrongly compounded or faulty developer. With the Celeritas powders I know that the developer is right and any failure to produce a good negative is blamable upon something else. However, were I again a beginner, I would no doubt select the Autogen powders made by the same firm. Mixed as directed, it has a factor of twelve when factorial development is desired, as I believe it should be by all who have the least trouble in developing for just the proper length of time. The formula is given, or rather, the amount of dilution is given for ten and twenty-five minute tank development, and from negatives I have seen that were produced with this developer I can assure my readers that it is very fine.

I have been using ready-prepared developer in the form of these powders for over two years and I know positively that my bills for chemicals are much smaller than they were before. My shelves are not littered up with an assortment of bottles and other containers partially filled with chemicals of a doubtful or unknown value. True, were I to give the matter some study, I might eventually learn just which ones did not lose in value by altering somewhat in form and which ones lost some of their photographic virtue even though no apparent change took place, but I have neither the time nor the inclination to give the subject that much care and attention. I want to make what I call pictures, perhaps not pictures in the sense that the artists use the word, but pictures in my own eyes. And what is more, I want to make them with as little trouble over the chemical end as possible. Hence my adoption of the ready-prepared developer and my adherence thereto.



Efficiency In The Kitchen

By Edward R. Tracy



With Illustrations by the Author



"LOAFING ON THE JOB"

and see how much more profitable it is to divide the labor. If one does nothing but put the prints in the hypo and the wash water, this leaves the other free to load the frames and develop, and the saving in time and energy is really great. If you are not already foolishly married and are enthusiast enough, you surely think enough of your hobby to pick out a helpmate who has tastes in lines photographic! It pays, brother amateur; it pays.

The most irksome part of gaslight printing is the final washing, on which depends so much the permanence of the prints. Try this. Obtain a fairly

SAY "kitchen" with premeditation. The proper word may appear to be dark-room, but it is my conviction that the majority of amateurs who do their own work make use of that apartment whose normal use is for the preparation of food. The word has also no suggestion of expense such as the more technical term dark-room conveys, an expense which does more than anything else to deter the ordinary Kodaker from seeing things through beyond the point of pushing the button.

To the type, then, of lens follower whose motto is "Economy First" let me tell some little kinks I have run across from time to time, little points not big in themselves, but all conducive to more pleasant and efficient work. First, have you ever tried working double? If not, just arrange an evening with a friend of like tastes



THE CAPITOL, HONOLULU—AT NIGHT

large, flat pan—dripping pan is the kitchen name—and place the prints therein. Of course, if the water is allowed to run directly on the paper, a beautiful crop of blisters will result. To obviate this unpleasantness, take an ordinary tin can, a baking powder can is admirable, and punch a number of holes in the side directly above the bottom. Put this in one corner of the dripping pan and let the water run into it, controlling the flow so that it will gently run out of the pan. The current coming from beneath will give a circular motion to the prints and will keep them in constant motion, preventing their uncomfortable tendency to stick together and insuring thorough washing. If the dripping pan is so leveled that the water flows out all along the top, there will be little danger of the prints falling out. The device is further improved by punching holes in the bottom of the big pan, arranging the holes so the water will go out in all directions. If the small can shows signs of moving around, it can be deterred by means of a piece of stiff wire placed around it and over the corner of the dripping pan.

In working gaslight paper, no one should be without some simple two-light arrangement. The expensive ones are good but no better than a home-made concoction, manufactured from a piece of board, a white and a safe red light, two sockets, a drop cord, a two-way knife switch, and some odd bits of wire. A light-tight drawer for paper is a desirable thing, for opening a box of paper, unwrapping the black protector and then reversing the stunt wastes half the time one has. Failing the handy drawer, get a plate box a size or so larger than your paper, and tack the bottom to a board or table. Glue or tack a strip of wood lengthwise on the cover and you have a box which is as easy to open as a charitable person's purse.

Vignetting improves many prints. Make a number for your choice negatives by placing the negative up to a window and tracing on a piece of paper the outline you desire to show. Transfer this onto a piece of opaque paper—catalogue covers are admirable—and cut the vignette, making the edges jagged.

EFFICIENCY IN THE KITCHEN



THE PACIFIC FLEET IN HONOLULU HARBOR—PENNSYLVANIA IN FOREGROUND

When printing, hold the vignette at least an inch away from the paper and keep it in constant motion. Tinted borders are easily made on vignetted prints by a second printing behind a mask which only allows the edges of the paper to show. A good way to get white borders on your prints without trouble is to paste a permanent mask of thin black paper along the edges of each negative.

Lastly, go over your finished prints and remove the spots with a retoucher's pencil or with spotting colors. It will enhance the value greatly. And always remember this, that almost any piece of expensive apparatus can be duplicated by some make-shift use of ordinary things around the house. They may not be so beautiful or quite so handy, but they have that highest desideratum in these times of stress,—economy.

"Art, just pure art, is very rarely the first consideration in printed matter," says Julian Wetzel, of Indianapolis. "In a picture hung on the wall for art's sake, art should be the sole aim, but in a catalogue intended to sell a feed grinder something besides art is necessary. I hear so much about artistic printing that I sometimes wonder if we're losing sight of utility printing—if we are forgetting what the printing is expected to do—and remembering only what it is. Away back in 1868, Frank Chance, the dean of Indianapolis advertising men, when asked to define a good advertisement, said: 'A good advertisement is one that sells the goods.' And I believe it—art or not art. Let's put enough art, or individuality, or style, or class, or whatever you want to call it, into our printing to make it distinctive and attractive; but we must not lose sight of the selling feature, which, in the last analysis, is the paramount one in advertising literature."—*The Printing Art*.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

INEXPENSIVE LARGE TRAYS: Bake pans of black sheet iron can be obtained from any hardware store, ranging in price from twenty-five to fifty cents according to size. These should be given a coat, inside and out, of a good quality of asphaltum paint; and, when this is dry, the inside given a good, heavy second coat.—John Harrington, Jr., Mass.

REMOVING SURPLUS WATER: To remove the surplus water from roll films before hanging them up to dry, try running them between the rubber rolls of an ordinary clothes wringer. The tender emulsion is not so apt to become scratched or injured by this method as it is when the ordinary procedure is followed. Post cards and prints on double-weight papers can also be given the same treatment after washing, with the result that they will dry more quickly and more uniformly. I believe there is a device of similar form manufactured for this latter purpose, but I never have seen it advertised.—Charles Rowles, Minnesota.

MAKING SOMETHING DIFFERENT: When the beginner feels that he has tried everything in the way of portraits, landscapes and the like, he can secure something a little out of the ordinary, and somewhat interesting, by setting up his camera at night just inside an open window having an unobstructed view of the surrounding buildings or landscape with the sky above. With a medium-sized stop and an exposure of an hour or two, a good negative should result, and if one selects an evening when there is an occasional flash of lightning within the field of the lens, an added interest will be given to the picture.—Albert Rankin, Maryland.

AN IMPROVISED TRIPOD SOCKET: Should one have a hand camera that is not provided with the usual socket for a tripod screw and wish to make a time exposure therewith, he may do so in the following manner: Secure a square nut which fits the thread of the tripod screw, and countersink this in the center of a piece of three-quarter inch board cut the size of the base of the camera. Tack quarter-inch strips along the sides of this board to hold the camera firm when placed thereon. The exposure can be made by holding a card, preferably a dark one, over the lens, opening shutter, raising and lowering the card, and then closing the shutter, thus avoiding jarring the camera.—James Dunlop, California.

UTILIZING CIGAR BOXES: I find that the scent of tobacco, while potent enough to nauseate some people, is not detrimental to developing paper. I therefore have no hesitancy in using the shallow ones, holding twenty-five cigars, as containers for my paper while printing, and the larger sizes for storage. The largest ones, holding one hundred cigars, will hold one gross of

PARAGRAPHS PHOTOGRAPHIC

post cards. I secure some sheet zinc and cut in strips one and seven-eighths inches wide and as long as desired. These I take to a tin shop, and, on a bending and forming machine, bend one side back onto itself to give rigidity and a smooth edge that will not cut the hands. The strip is again bent, this time at an angle of ninety degrees, the machine being set at the three-eighths inch mark. All that is then required is a few escutcheon pins to fasten three of these creased strips to the inner side of the lid of each box, one at each end and one at the front, in such a way that they form a ledge that prevents light entering at front of box. Clinch the ends of the pins so that they will not loosen or pull out. I also have a number of trays and shallow boxes that I use for various purposes, made out of small plug tobacco caddies. These I varnished inside and out, not once, but many times, using a good quality of hard oil finish. If one so desire, he can apply successive coats of white enamel to the inside, ending with two coats of special white outside varnish or so-called extra light damar varnish. The size is optional, but I would advise the selection of those having the dovetail form of construction coupled with perfect workmanship. If one does not object to the color, a more serviceable coating can be secured by using the familiar Probus paint.—John B. Woodyard, Ohio.

ADVERTISING AND ANNOUNCEMENT SLIDES: I have found that the main difficulty in making these slides was to get sufficient density while at the same time keeping the letters clear. The formula given below is the best I have been able to find for overcoming this and securing the proper contrast:

Water	15 ounces
Sodium carbonate, anhydrous.....	$\frac{1}{4}$ ounce
Sodium sulphite, anhydrous.....	$\frac{1}{2}$ ounce
Potassium bromide	15 grains

Just before use, add three grains of dry pyro to each ounce of solution required for the work at hand. When sufficiently dense, immerse the plate for a few minutes in a solution containing two grains of citric acid to the ounce of water, and then fix thoroughly in an acid fixing bath. From the resultant negative the slide is made on a contrast lantern slide plate and developed in the same developer. In preparing the copy, I use a dull black card about 11x14, making the letters with white show card ink or some similar preparation made for the purpose. A lantern-slide plate gives me the best results in making a negative from this copy, and care is taken to give as near as possible the correct exposure. Regarding the method of making the slide direct from a card having black letters on a white ground, I have never been able to do this successfully; that is, keep the letters clear. I would be pleased to hear of any method that permits this to be done successfully.—A. E. Davies, California.

SIMPLIFIED INTENSIFIER AND REDUCER: For a number of years I have been using, with the greatest degree of satisfaction, a reducer and an intensifier that require but three chemicals and the necessary water for the making up of both. The reducer is made by dissolving ten grains of yellow potassium chromate, not bichromate, in four ounces of water and then adding from thirty to sixty minims of C. P. nitric acid. This gives a rather strong solution and the worker's best plan is to employ it on a waste negative that has been devel-

oped with the developer usually employed, starting with a dilute solution in the tray and strengthening a little at a time until he finds it working at about the speed desired. Too great dilution stops all action. This reducer has the merit of requiring but a slight washing after its use and the slight disadvantage that new solution must be used for every one or two negatives; and one must remember that large plates require more solution. In my hands it works perfectly stainless, although I have seen pyro-developed negatives that appeared slightly stained after treatment, but this may have been due to the reduction of the density bringing stains into view that were before hidden by the too great density the reducer had removed.

The intensifier is made up by substituting C. P. hydrochloric acid for the nitric called for in the first formula. In using either of these solutions, particularly the reducer, the negative must first be made perfectly free from hypo and all finger or other greasy marks that will prevent even action, removed with alcohol or gasoline. If negative be dry, thoroughly soak in water for at least an hour to swell the gelatine before attempting reduction. When bleached, the negative should be washed free from yellowness and then blackened in any stainless alkaline developer like glycin or hydroquinone. Washing completes the process.—John B. Woodyard, Ohio.

The Daguerreotype

You see this old daguerreotype and first you want to grin, and then you—well, you sorter don't, and stop 'fore you begin. It's just an old-time picture of my Aunt Lib and her beau, that died at Spottsylvania most fifty years ago. It's kinda funny lookin' now; hoops then were all the style, but it's the story, not the clothes, that sorter chokes your smile. She wears a modish gray chignon, a look of sweet content, and that hoopskirt spreads out around quite like a circus tent. Her hand upon his shoulder rests in confidence and trust. He wears a scowl which plainly says, "I'll conquer or I'll bust!" And this way: When you look at her, dressed up in fashions old, and him, in his new uniform, so young and brave and bold, and baggy and ridiculous, you grin, then, I suppose, you recollect hearts never change like fashions change in clothes.

To brazen bugle's blaring call and screaming notes of fife, that brave and baggy lad marched forth to offer up his life upon his country's altar, and all he had he gave of youth and love and home and friends and won an unmarked grave. The little girl he left behind is still unwed today, a gentle, kindly, bent old maid, who on her lonely way has tender cheer and comfort brought to many an aching heart and many a humble bed of pain by sympathy's dear art. And thus she makes her empty life a blessing while she waits to meet her bold young soldier boy up at the golden gates. And so this old daguerreotype its simple story tells of brave young boy and gentle girl, and oft a hot tear wells of pity and of reverence, and, somehow, as you gaze, you come to like the fashions quaint of those stern olden days.—TOM P. MORGAN in *The Professional Photographer*.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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San Francisco, California, July, 1915

No. 7

A Competition That Is Different

The average photographic competition, while it may be interesting to a few readers of the magazine conducting it, really means very little to the magazine's readers, even those taking part therein, or to the magazine itself. If the prizes are small and the photographic requirements such that a chance exposure or an accidentally happy result may receive the highest honor, the best workers are not tempted to enter, and naturally, the winning of a prize becomes a rather doubtful honor. If the prizes offered are of high value and the qualifications demand that the pictures show both artistic feeling and technical excellence, the best workers easily crowd out those of less experience and skill; just those that a competition should help and inspire are discouraged and fail to take part. Furthermore, these average competitions do little to advance the artistic capabilities or technical skill of those entering pictures, even the winning of an award merely signifies that the picture so honored has more nearly met with the approval of the particular person or persons making up the jury.

It has occurred to us that a contest in which the award-winning pictures have not only the endorsement of a jury, but that of actual sale or use for a practical purpose should overcome to a great extent these shortcomings. We are therefore inaugurating a competition for pictures of a certain definite kind, namely, pictures suitable for cover illustrations for agricultural publications, their merit to be determined according to their suitability therefor. In our next issue we will reproduce a number that have actually been used on the cover of an agricultural publication, doing this in order that our readers may form some idea as to the kind of pictures wanted. In the meanwhile we might explain that the editors of these farm papers quite naturally seem to prefer subjects that are distinctly rural, or that have to do with the actual work or interests of the rural farm and home. Perhaps we may best describe what is wanted by saying that the scene portrayed should be one that would catch and hold the attention of the average farmer or his family were it presented to the eye in going about his own or a somewhat similar agricultural district. Were a farmer driving past and found a neighbor trying to extract a nail or splinter from a horse's foot, the scene would catch and hold and he might even offer to assist. Such a scene, while not uncommon, can be made interesting in a picture if the subjects are properly handled; and, if at all well done so as to show just what was taking place, with the subjects themselves busy with the work in hand and entirely oblivious to the camera and the photographer, the picture would be a success and one that would be gladly used as a cover illustration by any one of a number of agricultural magazines. But, bear in mind, the subjects as well as the surroundings must ring true as a portrayal of an agricultural scene. Furthermore, all should suggest the best of farm life, not the kind that the agricultural publications are trying to make better.

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The rules governing this competition will not be difficult to remember, for the simple reason that there are none. What we desire is an opportunity of seeing what our readers can do in this line, to encourage them along definite lines that may prove remunerative in the future, if not now. We will make some small award for the three best pictures of this kind reaching us before October first. Enlargements or special prints are not required; merely fairly smooth, unmounted contact ones from the original negatives will serve. We shall not be able to acknowledge the receipt of or return any of the prints sent in to this competition. We do, however, guarantee our readers absolutely that, aside from such reproductions as we may make, no other use will be made of any of the prints sent us. It is our desire to bring the work of the subscribers of CAMERA CRAFT to the attention of editors desirous of securing such illustrations for the covers of their farm papers, and we shall make it our business to put these gentlemen in touch with the producers of such pictures as they may require. Those taking part in the competition will profit thereby, whether they succeed in winning an award or not. The gain accruing from learning to work to a definite end should in itself prove a worthy incentive.

We have, in two or three of our past issues, published articles illustrated by farm scenes, and the inquiries received concerning the makers of such pictures have shown us that there is a demand along this line. As most interesting pictures of this description are well within the possibility of any of our readers living in or near a farming section, we believe a competition of this kind should interest and call for the best efforts of a large number of our readers. While the closing date is some weeks distant, we trust that those having suitable pictures will not hesitate to send them in at once in order that a few may be reproduced in advance of the selection of the jury. Should this competition be given the attention that we feel it merits, we will continue it, or one along similar lines, and should a sufficient number of meritorious pictures come to hand to warrant us in so doing, we may arrange for more frequent closing dates.

The Indianapolis Convention

Every photographer in the land who can possibly do so should attend the Thirty-fifth Annual Convention of the Photographers' Association, to be held at Indianapolis, Indiana, July nineteenth to twenty-fourth, inclusive. The tentative program is to hand and it is certainly a most inviting one. The lectures are particularly instructive and illuminating, the demonstrations are on practical subjects and along progressive lines. Entertainments are of a high order and have been judiciously interspersed so that there can hardly be other than a most profitable as well as enjoyable session. Indianapolis is noted for the genial hospitality accorded visitors, and in this particular case she proposes to show her ability to make pleasant the few days of relaxation the busy photographer may snatch from his rather grinding activities behind the camera and in front of the ruby light. Closing one's studio and spending these few days amidst such inspiring and instructive activities as this program promises, is nothing more than a most profitable business investment, one fully justified by the success of others based on their appreciation of the opportunities offered by former gatherings of the same kind. Do not neglect to attend if you can possibly do so.



Photography a Fine Art

By Sigismund Blumann



Purely as a matter of conceit, I have cause to thank the writers in several magazines for giving me the importance of replying to my various articles. The fact is, however, that I have no desire to figure as a personality in these controversies. Not in the least. The subjects related are big, and, to us enthusiasts, important. Let the reader eliminate the individual and bring pure reason to bear in making his own deductions and conclusions.

Under the heading of "That Charge for Accepted Photographs," arguments have been appearing in this magazine, pro et con, and, as so often happens, the original subject has almost been lost in the mass of language. The right to charge anything for the privilege of hanging photographs because photography is not a fine art has not been proven; but since the shift has been made to a debate on the standing of photography as bearing on the justice of an exorbitant fee, I hope the reader will indulge me in what follows and permit me to insist that even the plea that photography is only a mechanical or liberal art is a lame excuse. It is as if a bunko man should offer in extenuation of his activities the statement that he only operates upon ordinary individuals and respects the aristocracy. Following which we shall discuss the rights of photography to acceptance among the fine arts.

Mr. Clute combats the assurance with which I make my first premise that photography is a fine art. He accuses me of erring in that assumption; that it should be and is generally so accepted, but mitigates his censure with the allowance that I err from best intentions. Once and for all let us, you and I, dear reader, sweep all argument from the board with what may appear as an epigram but which really is a mere truism. A thing is a work of art, if such it be, whatever the means and methods by which it has been produced. This is incontrovertible. The editor of CAMERA CRAFT says that the accepted standing of photography depends on the

activities of the mass of photographers and that we can only secure its acceptance as a fine art by offering sufficient proof. At least that we must present more proof. Well, from what I have seen of the Fine Art exhibit at the Exposition, I want more proof that painting is a fine art. A preponderance of evidence may be essential in law, but in the arts one achievement, even though it be only a lucky accident, proves, by possibilities and as a prototype, the whole contention. I offer one print by Brugiere. It is a photograph and apparently shows only such handwork as is permitted by even the advocates of straight photography. Is it a work of art, of fine art? Two artists of accepted standing say it is. They modify this concession by saying that if it had been produced exactly as it is with crayon, stump and sauce, it should be generally accepted in a collection of fine art. What more is there to be said? Fifty thousand men, with the same camera, plates, papers, developers, etc., could not have produced this picture. One man, with study, skill, imagination, and the divine spark that lights the photograph no less than the painting, the statue, or the poem, has given us a vision of the real seen through the eyes of an artist. There is design, atmosphere, planes, temperament and emotion. And more evidence is demanded! Why, if every person with a camera could make such pictures, I should be the first to retire from my stand and should confess that mechanical means made such a possibility. Should the number of real artists determine the standing of an art, then painting must be deposed of its high rank. For to every Corot there are a multitude of canvas spoilers.

Is photography a *fine* art? Is it? Have works of real art been produced with the camera? That is the thing to decide. Does the first recourse to mechanical means as many claim decide the final classification? If so why should not intermediate means be as determinate? Why not throw out of the

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classification of fine arts the statue, cut as most are today, from the sculptor's clay modeling by aid of the pointer machine? Where the dividing line is so narrow and demarcation is only a merging of boundaries, the big way should be to make a liberal adjudication. Let us say that if a photograph is fine, it is *fine*; and if it is artistic, showing the elements of a work of art, it is *a work of art*. Finally, if it is *fine* and *a work of art*, it is a work of *fine art*. That is the *reductio ad absurdum*.

And, in conclusion, at the risk of weakening my contention, let me say that photography has limitations which do not encompass painting or sculpture; but then, too, so has any of the monotone mediums: crayon, pencil drawing, etc. Let us never forget that back of the ground glass is the eye of an artist, and that along every material step in the procedure a mind with dreams of an ultimate conception, the spirit of a master is the dominating force that rightly compounds the chemicals, measures the seconds accurately to the purpose, selects the paper of the proper tint, surface and finish, and at the last, so trims that the idea, emotion, or what you will, shall gain in its conveyance. Understand, I am making no exaggerated claims. I do not assert that more or as much training is required to make an artist photographer as to make an artist painter, though an inferior painter and an inferior photographer may be

born in an equally short space of time. I do insist, however, that though the fine arts may be given an arbitrary grading, the classification of fine arts must include all arts that, through the exercise of the producer's mind, convey lofty thoughts and emotions. To summarize: It is not the production itself that determines whether or not a thing is a work of art, but rather the spirit of the thing. The Muse may smile through a photographic print. This picture before me is not the portrayal of one of the Exposition buildings as I might see it, but as Mr. Brugiere, with a soul kindled on Olympus' top, sees it. A painter might add color, but could he infuse more feeling?

In closing, a word of tribute to Mr. Steiglitz, who, with inflexible (stiff-necked, if you will) persistence, has disdained all argument and bravely gone ahead, maintaining that, where photography is not a fine art it is not to be considered at all. I withdraw all the notions I once held as to his cold, aristocratic despotism, and here, and now, concede that he has been the bulwark of pictorialism. He is a rock about which heavy seas of controversy have beaten and churned, and still he stands. He neither argues nor debates. He states plumply: "Photography is a fine art, and if it is not *that* to you, we have nothing in common. You have your way, and go your way; I shall have my way and shall go my way." And I go with him.



\$3,000 Kodak Advertising Contest



In their announcement of the 1915 contest for pictures illustrating Kodak advertising slogans, the Eastman Kodak Company advise that prizes will be awarded as follows:

For the best photograph illustrating any one of the five following slogans, three hundred dollars; for the second best photograph illustrating any one of the five following slogans, two hundred dollars. The five slogans are as follows: Class No. 1. *Take a Kodak with you.* Class No. 2. *All outdoors invites your Kodak.* Class No. 3. *There are no game laws for those who hunt with a Ko-*

dak. Class No. 4. *Let the children Kodak.* Class No. 5. *Write it on the film—at the time* (for autographic Kodak advertisement). The last, or Class No. 6, for the best new slogan, together with a picture illustrating same, five hundred dollars.

Quoting from the announcement:

"The first five classes in the 1915 Kodak advertising competition suggest definite lines along which the illustrative work is to be done. The sixth class gives opportunity for you to exercise both your illustrative genius and your advertising ability.

\$3,000 KODAK ADVERTISING CONTEST

"The successful pictures are always the bold ones that bring out forcefully the Kodak advantages or are convincingly suggestive of the delights of picture making by the Kodak system. Pictures that are merely good landscapes or views or portraits are not wanted. Pictures that denote action with the Kodak are the ones that will capture the prizes.

"The work is interesting. Moreover, photographs are being more and more used in advertising. It's a line of photographic endeavor worth entering—and the cash prizes are worth while."

The terms governing are as follows:

"1. Each picture is to contain a figure or figures and is to be suitable for use as an illustration in advertising the Kodak or Kodak system of amateur photography.

"2. Pictures may be of any size, but as they will often be reproduced in large size, large pictures will, everything else being equal, be given the preference.

"Prints only are to be sent for competition—not negatives.

"4. Prints must be mounted but not framed, and the slogan intended to be illustrated must be written plainly on mount. (Mounts should show about one-inch margin.)

"5. No competitor will be awarded more than one prize in one class, nor a total of more than two prizes. (This does not prevent a competitor from entering as many pictures as he may desire.)

"6. Due and reasonable care will be taken of all non-winning prints and, barring loss or accident, they will be returned to their owners at our expense, but we assume no responsibility for loss or damage.

"7. The negatives from which all prize-winning prints are made are to become the property of the Eastman Kodak Company, and are to be received by it in good order before payment of prize money is made.

"8. Contestants who are awarded prizes must also furnish to us the written consent of the subject (in case of a minor, the written consent of a parent or guardian) to the use of the picture in such manner as we may see fit in our advertising, as per the following form:

".....

"For value received, I hereby consent that the pictures taken of me by
....., proofs of which

are hereto attached, or any reproduction of the same, may be used by the Eastman Kodak Company or any of its associate companies for the purpose of illustration, advertising or publication in any manner.

"This form for a minor:

".....

"I hereby affirm that I am the (parent/guardian) of, and for value received, I hereby consent that the pictures taken of (him/her) by proofs of which are hereto attached, or any reproduction of the same, may be used by the Eastman Kodak Company or any of its associate companies for the purpose of illustration, advertising or publication in any manner.

".....

"9. All entries should be addressed to Eastman Kodak Company, Advertising Department, Rochester, New York. Entries from Canada should be sent to the Canadian Kodak Company, Toronto, Canada.

"10. In sending pictures, mark the package plainly, 'Kodak Advertising Contest,' and in the lower left-hand corner write your own name and address. Then write us a letter as follows:

"I am sending you today by (express/mail) charges prepaid,.....prints. Please enter in your Kodak Advertising Competition. Class.....

"Yours truly,

"Name

"Address

"11. The name and address of the competitor must be legibly written on a paper and enclosed in a sealed envelope in the same package in which the prints are forwarded. There is to be no writing on prints or mounts.

"12. We will promptly acknowledge the receipt of pictures, and when awards are made, will send each competitor a list of prize winners.

"13. Recognized professional photographers, including commercial and newspaper photographers, in short, all persons (except those entitled to enter the Grand Prize Class) depending upon the use of a camera for a livelihood, will compete in Class A. Class B is open to amateurs only.

"14. This contest will close November first, 1915, at Rochester, New York, and October twentieth at Toronto, Canada."

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Crimson Tones On Bromide Prints

Arthur Stowe, writing in *Photography and Focus*, calls attention to the fact that when a bromide or gaslight print has been sulphide-toned, it is usual to regard it as finished; but by a simple process of gold toning, for which he gives full working instructions, it can have its sepia color changed to a fine crimson. He says:

Amongst the colors which can be obtained on bromide or gaslight prints by comparatively simple processes of toning, there is one which is due to Blake Smith, who first published his account of it, with full working directions, some seven or eight years ago. It gives the image a fine crimson red color, which is very suitable for certain forms of vignetted portraits. There are various methods by which it can be carried out, but in its broad principles the process consists of toning a bromide or gaslight print by the sulphide process, and then toning the image so obtained with gold.

As in all toning methods with prints of this description, it is most important to start with a thoroughly good plain black and white print, as with any other the time and materials spent on toning it will be wasted. The essential feature is that the exposure of the paper must be so timed as to allow of full development without the print becoming too dark; that is to say, the exposure must be such that the action of the developer seems ultimately to slow down and almost to stop. With prints which have been made in this way there is very little chance of failure; whereas with those which have had to be taken out of the developer quickly in order to prevent the action going too far, pleasant tones cannot be obtained at all, even if the appearance of the picture was quite good while it was in the black and white stage.

Prints to be toned must be well fixed in a clean hypo bath, whether a plain or an acid bath is not material. They are then toned by any of the usual sulphide toning processes,

and after washing are allowed to dry. There is no doubt that this intermediate drying exercises some kind of hardening action upon the gelatine, and makes it much less susceptible to injury when re-wetted. It should, therefore, on no account be omitted. The dry prints may be trimmed before toning if they are much larger than they are required to be when finished, especially if they have dark edges, as the toning process is one which takes a good deal of gold, and gold spent in toning parts that are to be cut off is, of course, so much waste.

Several gold toning baths are available, ammonium sulpho-cyanide, thio-carbamide, and the "sel d'or" having all been used by different workers with success. The writer prefers the last named, as being easily made up from chemicals which every photographer has to his hand, while the color which it gives is an excellent one. Its action also is very regular and uniform over the whole print; so that if some color short of the bright red which is ultimately obtained is wanted, it can be obtained by taking out the print at any stage which is desired and washing it.

To make up the toning bath, two ounces of the ordinary stock hypo solution of a strength of four ounces to the pint is taken; this, of course, must be unused solution, but it need not be freshly made up. Six grains of sodium carbonate crystals are added to it, and, when this has dissolved, one grain of gold chloride dissolved in a dram or so of water added, and the toning bath is then ready for use at once.

The dry sulphide-toned print is placed in this solution, allowed to get thoroughly limp, and is then allowed to lie face downwards until the desired color is reached. The action is quite a slow one, and the print need only be looked at every quarter of an hour or so to see how it is progressing. It is important, as it is left undisturbed for some time, that no air-bells shall be enclosed beneath the prints.

A PHOTOGRAPHIC DIGEST

NOTE: I reported, in *CAMERA CRAFT*, the original article by Blake Smith, and since then have had a very large experience with gold toning of both sulphuretted and plain prints, using the ammonium sulpho-cyanide formula, and am convinced that the results are absolutely permanent. Prints made at the same time six years ago, some kept in albums and others exposed to day- and even sunlight, show no difference in tone or color.—[H. D'A. P.]

Architectural Photography With a Hand Camera

D. McLeish has an article on this subject in the *Amateur Photographer*, which may be of great interest to visitors to our Panama-Pacific International Exposition, where, amongst other outrages, is the rule forbidding tripods. The important passage in the article reads:

"Raising the lens to any considerable degree necessitates the use of a smaller stop, not (if the lens is a good one) to improve definition, but in order to get something like even illumination over the plate. The consequent increased exposure will frequently mean the abandonment of the subject, unless a support for the camera is available. This naturally does not apply when the camera is merely tilted; the exposure can be made at full aperture, as only the best portion of the lens field is utilized.

"The principle of correction of converging lines by way of enlarging is of course well known. There seems to be, however, a general idea that to get requisite sharpness it is necessary to greatly stop down and correspondingly increase exposure. This is not the case. The lens can be used at just as wide an aperture as is found convenient in ordinary work, providing that the negative as well as the sensitive surface is tilted; to the same degree and in the opposite direction.

"As enlargers differ somewhat, though the principle is the same throughout, it is sufficient to indicate the essentials of negative, lens, and sensitive surface. AA represents the normal positions of negative and sensitive surface. BB represents both slanted to correct slight distortion, CC when slanted to correct greater distortion. The upper part of the negative to which the lines converge must, of course, be nearest the lens (here shown inverted at D) in order to effect its

extra enlargement in the final result. It is hardly necessary to add that this correction can be made in lantern-slide work, and, indeed, in any form of reproduction in which a lens is employed to form the image."

Panchromatic Plates for Monochromatic Subjects

The idea that a plate which is fully color sensitive can only be used to full advantage upon a polychromatic subject is one which is firmly engrained in the minds of most photographers, but such an idea is entirely erroneous. Without a yellow filter the panchromatic plate is little better than the ordinary one, but with such a filter the white light reflected from the surface of many objects is controlled, and the rendering of the actual color of the material greatly improved. A recent experience in photographing a number of carved wood articles, which were semi-glossy and of a dark brown color, was very instructive. With an ordinary plate it was not possible to secure texture and grain in the high lights together with full detail in the shadows, but with the panchromatic plate this was easily done. We have also found the advantage of using a yellow screen with a panchromatic or even an orthochromatic plate for photographing silverware either quite new or when tarnished. It seems to allow of a very full exposure without producing a flat effect, so that there is no undue density of the high lights by the time that the shadow detail has attained its proper density. Most color-sensitive plates reduce halation to a minimum, which is what we might expect when we recall General Waterhouse's experiment in pre-ortho days of adding a red dye to the silver bath for wet collodion in order to prevent halation.—*British Journal of Photography*.

A Panchromatic No-Screen Plate

"A correspondent, who asks us not to publish his letter, but tells us we may make what use we like of its contents, suggests that it would be a very useful thing if one or other of the platemakers were to put on the market a panchromatic plate on the basis of the 'no-screen' plates now made, but with a deep enough screening to give in ordinary daylight complete color correction. 'There are many of us,' he writes, 'who would give such a plate a hearty welcome. The use of separate screens presents no difficulty to the expert; but any one who only uses panchromatic

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plates occasionally and for special work is apt to regard the need for a screen as a deterrent. Besides, with a very rapid lens, or for a telephoto, the separate screen must be optically worked or else the definition will not be as good as it should be, and optically worked screens cost money. I suppose that in the case of a dyed plate there is no fear of spoiling the definition.' We put the suggestion on record for what it is worth; a few years ago that would have been very little, but with the decided increase in popularity of panchromatic plates it is possible that the enterprise of a maker would meet with its reward. The existing screened orthochromatic plates show that they 'fill a felt want,' that for some purposes there are a good many users who would be willing to sacrifice some of the rapidity for a more perfect color rendering."

The above letter, which recently appeared in *Photography*, appeals to me with particular force at the present time. I have been seeking to record the beauties of the great Exposition. It is above all things in its wondrous coloring; blue, yellow and red, so completely satisfying that it will long live in our memories, and the ordinary plate absolutely reverses these effects. For this reason, I have worked almost entirely with Wratten & Wainwright Backed Panchromatics, plus a screen. The other day I happened to have a few No-Screen Isochromatics and found them so convenient that I heartily wished the same principle had been applied to the panchromatics.—[H. D'A. P.]

The Picture In The Photograph

The proportion of the area of a negative that can be usefully enlarged is dealt with in a recent editorial in the January fifteenth issue of the *British Journal of Photography*, and those of our readers having access thereto should read it. One point is interestingly brought out, namely, that the angle of view covered by the average camera includes a much larger field than can be artistically used in the average case. For example, the average $3\frac{1}{4} \times 4\frac{1}{4}$ camera carries a five-inch lens; whereas, to fill such an area without seeming distortion, a ten-inch one should be employed. To get the same result as the latter would have yielded it is necessary to use only the center of the field corresponding to the narrow angle that the five-inch would project; and, this would only be one-

fourth the area of the plate. Ergo, for pictorial work, get your subject in the center of the field and enlarge only that particular portion of the negative.

Sensitising Canvas for Enlarging

To sensitise canvas with a coating sufficiently rapid for making enlargements by daylight or with an arc lamp the following directions, if carefully followed, give a very good result. If the canvas has already been prepared for artist's use the first thing is to clean it with a mixture of one part strong ammonia and four parts methylated spirit. Rub this over with a clean rag until the canvas is free from appearance of greasiness. Then let it dry thoroughly and prepare the first solution as follows:

Potass iodide	80 grains
Ammonium bromide	35 grains
Ammonium chloride	10 grains
Gelatine	60 grains
Albumen, dry440 grains
Water	10 ounces

The first three are dissolved in the cold water, then the gelatine added and the solution gently warmed and allowed to stand in a warm place until the gelatine has quite dissolved. Then the albumen is stirred in. The solution must be only tepid when this is done, for, if too warm, the albumen is precipitated. The mixture is applied to the canvas with a sponge. The canvas so prepared may be kept for any reasonable time. To sensitise it a solution of silver nitrate, thirty-five grains; glacial acetic acid, 40 minims; water, one ounce, is poured in a small pool at the center of the canvas and evenly spread with cotton wool. The canvas is exposed wet, the exposure being about a minute in a daylight enlarger set to about six times enlargement and using a wide aperture lens. The developer is made by dissolving sixty grains of gallic acid, and ten grains of lead acetate in ten ounces of water. It is applied to the canvas with the same piece of wool used for the sensitiser, the silver solution left in the wool being sufficient to provide the necessary vigor in the image. Finally, the canvas is rinsed and fixed in an ordinary hypo bath.

The above letter by Frederick W. Morris, addressed to the *British Journal of Photography*, will probably answer an inquiry recently made to this department.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Blaming One's Material

Not all workers are so unreasonable, but a few are, as to at once suspect their film, plate, paper or developer when the results are not just what they should be. That any of these are defective is hardly worth considering as a possible cause of the trouble. Plates and paper may, by long storage in an impure or excessively damp atmosphere, become defective, but this can only happen in the case of a very few small and irresponsible dealers, and even then at rare intervals. To really suffer, the dealer would not only have to be quite ignorant and careless, but he would have to have a condition that could hardly exist in a building devoted to trade purposes. One can see, therefore, that the chance of purchasing defective supplies is quite a negligible one. With photographic chemicals, particularly those packed in glass, as are all put out by good chemical houses if at all liable to deteriorate, the danger is even less. On the other hand, the worker's own dark-room is where most of the damage is done. And we never could understand just why photographers will use their dark-rooms for storage purposes, particularly for the storage of such sensitive materials as those with which they work. And doing this, how can he expect that the material will be damaged in the comparatively dry and even temperature of the dealer's shelves and yet be perfectly safe in the damp, often fume-laden atmosphere of his own dark-room. And that is not all the difference. On the dealer's shelves the goods are contained in sealed packages that would almost stand a short immersion in water, while in his own hands the sealing strips are cut to permit of removing part of the contents and the sealing wax or other protection removed from the necks of the bottles. It would profit the photographer more to take special care in his handling of supplies; and, when anything goes wrong, blame it on imperfection in the material used only as a last resort.

Asking the Editor

As many of our readers know, we are always ready to look over prints sent in and answer questions as to how they can be improved. A few years ago, more than a few, all the prints so sent were on gelatine papers that were made in only one grade, and therefore one was able to judge of the quality of the negative from which they were made. Today, with developing paper used almost universally and with grades styled hard, normal and soft, one has little opportunity of judging what the negative may be like unless he is told which particular grade of paper has been used in making the print. In fact, using the same grade but changing the strength of the developer will, with some negatives, make quite a difference in the print. A fairly good negative can easily be so printed as to suggest that it was undertimed or overtimed to quite an appreciable degree. And, if one wished to use all the available means in printing, it would not be difficult to take a clearly overtimed negative and make a print on developing paper that would have every appearance of being from an undertimed one. About all we can do is to suppose that the sender of any given print has used the grade of paper best suited and that any lack of good quality is due to the then indicated error, if any, in exposure of the negative from which the print was made.

A Different Calendar

I regret exceedingly that I am unable to reproduce a calendar that I saw at the home of a friend some months ago, but as so doing is out of the question, a description will have to suffice. It was purely photographic and quite a departure from the regular thing. The maker had taken one of the large calendars gotten out as an advertisement, selecting one that showed the entire twelve months on one sheet with the advertising matter printed around the edge. A negative was made of the calendar portion only, good con-

CAMERA CRAFT

trast being secured in order to bring out the figures plainly. Next he made a negative of his two pretty children in front of and below an inexpensive frame hanging on the wall of a room in his home, hanging in a position where the lighting was good and an opportunity of introducing some of the home furnishings added to the effect. The children were posed as looking up wistfully at the frame, while this last was selected of such a size and proportion that the smaller negative image of the calendar could be printed into its center with a suitable margin around. The negative of the children looking up at the frame was prepared for printing by simply blocking out the part within the frame, and the other negative was made ready for double printing by blocking out all that portion coming outside the image of the calendar. Simple double printing gave the photographer a most pleasing picture entitled, "How Long Before Christmas Comes?" and one that serves as a calendar without the usual make-shift of a little pad tacked on at the bottom or to one side. Of course the same effect could be secured by placing the calendar in the frame and photographing all on one plate.

Ferri-Chloride Reducer

This reducer has been recommended to me by a very careful and experienced worker, who says that it has the merit of reducing over-dense high lights at a greater speed than it does the detail in the shadows, this last being generally none too strong in such negatives having extreme contrast. The negative to be reduced must be washed until perfectly free from hypo, when it is placed for a minute or two in the following:

Ferri-chloride	80 grains
Hydrochloric acid	160 grains
Water	16 ounces

At the end of a minute or two there will be no apparent action, but the negative should be placed at once in a fresh hypo bath of the ordinary strength, where reduction will at once begin and proceed quite rapidly. The negative should be watched closely and transferred to a tray of clean water for washing before the desired amount of reduction is achieved, as the action continues slightly after the plate is put to wash.

Removing Paint From Glass

Some painters, employed by the landlord, spattered some nice brown paint over the glass of our friend's show-case at the foot of

the stairs. It was not noticed until it was good and dry, because these same painters carefully covered it up with a large cloth while putting on the second coat. Our friend spent the best part of a morning trying to scrape it off when along came a lady friend who asked him why he did not put a little acetic acid on a cloth and wipe it off like so much dust. He tried the plan and it worked like a charm. The acid is a mild one, will not hurt the hands, but it must be kept away from any paint or varnish on the woodwork around the glass being cleaned.

Reviving Gilt Frames

The professional told me about another little hint that he got from a lady patron, and that was how to brighten up and revive the gilt frames that hung on his walls. All one has to do is to carefully remove all dust, paying particular attention to any corners, with a soft brush, and then using the same tool and a solution composed of one ounce of chloride of soda in two ounces of white of egg, carefully go all over the frame. This, our friend claims, makes rather dingy gilt frames look as good as when first purchased.

"Photography In Five Lessons"

For many years now, it has been the custom of Burroughs, Wellcome & Company to issue a new photographic booklet at the commencement of what may be called the photographic season. The present booklet is unique in many respects. It attempts what at first might be thought an impossible task, namely, to teach photography, from exposing the negative to finishing the print, in five short chapters, no one of which occupies more than six small pages.

The booklet is absolutely devoid of padding; every word in its twenty-eight pages counts. A few years ago it would have been impossible to issue such complete instructions in so condensed a form, but in recent times investigation has done much to make photography an exact science as well as a delightful art, so that everything is simplified, not only for the novice, but also for the expert. The illustrations are as usual of high quality, and are not mere decorations. They really illustrate and explain points dealt with in the press. A copy of "Photography in Five Lessons" will be sent gratis and post free to any one mentioning this paper, and addressing Burroughs, Wellcome & Company, 18-20 East Forty-first Street, New York.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

George E. Moulthroppe, Director Lantern Slide Division, Bristol, Conn.

Edward B. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

NEW MEMBERS

4091—Scott G. Snowden, Modesto, Cal.

Class 2.

4092—O. F. Smith, 1322 N. Kellogg St., Ames, Iowa.

Post cards and $4\frac{1}{4} \times 6\frac{1}{2}$, various papers, of miscellaneous views; for the same. Only post cards and $4\frac{1}{4} \times 6\frac{1}{2}$ prints. Class 1.

4093—Roy L. Peden, Glasgow, Ky.

Post cards, developing papers, of views; for the same. Class 1.

4094—Moreau Jansky, 2117 Jefferson St., Madison, Wis.

$3\frac{1}{4} \times 5\frac{1}{2}$ and up to 8×10 enlargements, various papers, of views, landscapes, etc., of Madison and the four lake region, University of Wisconsin; for landscapes, various types of scenery, animal life, marines, etc. My work is of the first quality and I expect the same. Class 1.

4095—L. C. Oakes, Grainfield, Kan.

$3\frac{1}{4} \times 5\frac{1}{2}$ and 5×7 , developing paper, of photos and view work; for photos and nude studies by advanced amateurs. Class 1.

4096—Howard J. DeMills, 355 56th St., Brooklyn, N. Y.

Class 2.

4097—L. A. Starrett, 2615 N. 4th St., Columbus, Ohio.

$2\frac{1}{2} \times 3\frac{1}{2}$ and 4×5 , various papers, of buildings, street scenes, monuments, a few Canadian and miscellaneous views; for about the same. No post cards, good Western and mountain scenery. Class 1.

4098—Chester W. Whittemore, Box 114, Lompoc, Cal.

$3\frac{1}{4} \times 5\frac{1}{2}$ and some $3\frac{1}{4} \times 4\frac{1}{4}$, various papers, of landscapes only at present, some industrial; for landscapes, notable persons, and industrial pictures. Class 1.

4099—Donald Straw, 1116 5th St., Anacortes, Wash.

$3\frac{1}{4} \times 5\frac{1}{2}$, various papers, of nearby views, mountain scenery, marines and general views; for foreign and views of general interest. Unmounted prints only. Class 1.

4100—W. E. Owen, 305 Thompson St., Pendleton, Ore.

$3\frac{1}{4} \times 5\frac{1}{2}$, developing papers, of local scenery and views, home portraits, and general snaps; for anything of interest. Prints, no post cards. Class 1.

4101—Ray W. Graves, 248 Main St., Chadron, Neb.

4×6 , 5×7 and 8×10 , various papers, of Indians, good scenery, soldiers, Western scenes, branding, and cowboys, also portraits, etc. Class 1.

RENEWALS

2498—B. B. Sprout, 516 W. 4th St., Williamsport, Pa.

Post cards, $4\frac{1}{4} \times 6\frac{1}{2}$ and 5×7 , various papers, of miscellaneous subjects, some speed work; for the same. Class 1.

2990—Jas. L. Vaughan, R. F. D. No. 1, Belfast, N. Y.

Address was Belvidere. $3\frac{1}{4} \times 5\frac{1}{2}$, 5×7 and stereo views standard size, developing papers, of old landmarks, landscapes, and railroad views; for the same. Class 1.

3300—Clyde Merritt, R. F. D. No. 3, McCune, Kan.

$2\frac{1}{2} \times 4\frac{1}{4}$ and same size on post cards, developing papers, of country, city, and miscellaneous views; for anything of interest in the same size or on post cards. Class 1.

3687—A. Grootenboer, 414 N. 10th St., Paterson, N. J.

Class 2.

3907—Charles E. S. Rasay, 528 Gansevoort St., Little Falls, N. Y.

Class 2.

3908—S. J. Anderson, Box 32, Bellaire, Ohio.

$3\frac{1}{4} \times 5\frac{1}{2}$ and 5×7 , various papers, of figure studies, nude and semi-nude, posed in an artistic manner, also Niagara Falls and lake views; for the same. Prints only, no post cards. Class 1.

3916—Fong Get, 914 Stockton St., San Francisco, Cal. Class 1.

3930—Hugh L. Mangum, Box 523, East Radford, Va.

$2\frac{1}{2} \times 4\frac{1}{4}$ to 5×7 , developing papers, of mountain and river scenery, and a few nudes; for any good picture of interest. Prints preferred. Class 1.

CHANGES OF ADDRESS

1359—W. H. Emmet, Box 43, Corwin Springs, Mont.

(Was Electric, Mont.)

1864—A. G. Lindgren, Floodwood, Minn.

(Was Echo, Minn.)

2218—Miss Carrie Anondson, R. F. D. No. 10, Box 818, Los Angeles, Cal.

(Was R. F. D. No. 10, Box 82K.)

2404—A. E. Fyall, Lower Nicola, B. C., Canada.

(Was Vancouver, B. C., Canada.)

2479—Mrs. Lois E. Gundelach, Home, Ore.

(Was Huntington, Ore.)

3281—B. W. Lemley, 11 S. La Salle St., Chicago, Ill.

(Was 29 S. La Salle St.)

3750—E. W. Cunningham, 1110 S. Graham St., Charlotte, N. C.

(Was Atlanta, Ga.)

3830—Dr. Addison O. Neill, Pearsall's Landing, Lakeport, N. H.

(Was Daytona, Fla.)

3957—W. E. Lewis, 426 E. Davis St., Portland, Ore.

(Was 82 E. 7th St. N.)

4052—Myron Sherman, Box 566, San Leandro, Cal.

(Was Fowler, Cal.)

4057—John H. Kuntz, 548 Sherman St., Marion, Ind.

(Name erroneously published in our May issue as Kintz.)

4075—Perry M. Shaw, 1404 Bonita Ave., Berkeley, Cal.

(Was 4304 Bonita Ave.)

WITHDRAWAL

4087—Albert Rankin, 608 N. Bond St., Baltimore, Md. Traveling.

CLUB NEWS AND NOTES

Club Secretaries and others will oblige by
sending us reports for this Department

The Royal's Sixtieth Exhibition

The Sixtieth Annual Exhibition of the Royal Photographic Society will be held at the galleries of the Royal Society of British Artists, Suffolk Street, Haymarket, London, S. W., beginning Monday, August twenty-third, and closing Saturday, October second. Intended exhibitors from this country should send pictures unframed, but mounted, accompanied by an entrance fee of one shilling for each print, and exhibits should be sent carriage paid to the Royal Photographic Society, 35 Russell Square, London, W. C., to arrive before the closing date for exhibits, which is July thirtieth.

While the society furnishes entry forms, time does not permit sending for them, and we would, therefore, suggest that such form requires the name and address of the sender, with title or description of each picture, including the name of the process employed, all of which information could be supplied on a slip attached to each print. If exhibits are to be returned by post, a remittance covering should be sent therewith.

Quoting from the prospectus, these annual exhibitions are intended to bring together a thoroughly representative collection of all that is best in pictorial, scientific and technical photography, and the desire is to make the forthcoming one a worthy successor to those which have preceded it, and a true reflection of the present position of photography in all its branches.

Photography For Scientific Purposes

C. E. Kenneth Mees writes us that he has again arranged to collect and forward work intended for the scientific section of the Royal Exhibition noticed above. The work of this class sent to the Royal last year by workers in this country sufficiently demonstrated the place held by our workers in applied photography, and it is very desirable that American photography of a scientific character should be equally well represented this year. In order that this may be achieved with as little

difficulty as possible, Mr. Mees has again undertaken the work and asks that prints, unmounted but not framed, showing the use of photography for scientific purposes and its application to spectroscopy, astronomy, radiography, biology, etc., be forwarded to reach him not later than Thursday, July first. He also asks that any workers in a position to submit work of this character, communicate with him at once so that he can arrange for the receiving and entry of such pictures.

Auckland Camera Club

We have received a neat little folder containing a syllabus of the club's activities for the coming year, a list of the officers and the few simple rules by which the club regulates its affairs. The syllabus shows that each monthly meeting is devoted to a separate subject and each member is requested to bring a print of the character indicated for that particular month. This seems to be an excellent idea and one that clubs in this country might follow to advantage, if they could arrange to have some one lecture upon the given subject or criticise the prints brought in at any particular meeting. In fact, there is no good reason why this plan of having the members all bring prints of a certain character should conflict with any regular club activity, such as a demonstration on developing, printing, or other photographic operation. The prints brought in could be displayed and discussed, as a preliminary to the evening's demonstration or other attraction, and if a criticism of the prints be offered in a constructive form, that particular feature could be made of great value.

Boston Y. M. C. U. Camera Club

At the annual meeting held at the club rooms, 48 Boylston Street, May second, the following officers were elected for the ensuing year: President, Howard J. Saunders; vice-president, Henry C. Shaw; treasurer, H. C. Channen, and secretary, Louis Astrella. To the retiring president, Dr. Harvey D.

OUR BOOK SHELVES

Hutchins, by far the most popular officer in the club's history, is largely due the present flourishing condition of the club, which, with sixty-three active members, has just closed the most prosperous season of its existence. During the past year the equipment of its artificial light studio has been completed by the installation of a twelve-inch Velostigmat lens and other equipment and accessories that have added no little to the success of the club.—LOUIS ASTRELLA, Secretary.

The Kansas City Camera Club

At the annual meeting of the Kansas City Camera Club, held May fourth, the following officers were elected for the ensuing year: President, N. J. Simonds; vice-president,

Val B. Mintun, and secretary-treasurer, Dr. Maclay Lyon, Suite 501, Bryant Building. The club will hold its annual exhibition at the Fine Arts Institute early in the fall.

Illinois College of Photography

Charles Fremgen, who was a student at the college in 1905, has just returned to take additional work in some of our new departments.

The members of the Camera Club literally "shot up the town" on a recent Saturday, for the benefit of the movie shows. Every member was out with a hand camera, in quest of local scenes that would make a hit, and nearly every one on the streets that day was photographed, "both coming and going."



OUR BOOK SHELVES

"Chemistry of Familiar Things"

This new work by S. S. Sadtler, S. B., is one that cannot help but interest every one of our readers. While not specially photographic in its application, its clearness and practicability are such that a strong attraction is created as the reader is led, step by step, yet without unnecessary delay or deviation, to a comprehensive understanding of the composition of the things about him. The reader wonders how the author has found it possible to so intelligently explain to the lay mind the chemistry of common things in such an instructive and entertaining manner; and, appreciating the apparent ease with which it has been done and the satisfaction afforded him thereby, wonders again why it was not done long ago. Exact and valuable as is the knowledge given, it is presented in a non-technical form that makes it available to the reader who has no knowledge of chemical equations or experience in chemical analysis. In dealing with such subjects as air, water, metals, soils, food, textiles, light, heat and household substances of many kinds, practical utility is bestowed and the subject made most attractive. All in all, the book might well be called the layman's chemistry and it can be trusted to make the layman more appreciative of the value of chemical knowledge and less apprehensive as to the difficulties attending investigation in this interesting field. The

volume of over three hundred pages is handsomely printed and contains nearly thirty plates and other illustrations. Published by J. B. Lippincott, Philadelphia; price, one dollar and seventy-five cents, net.

"The Spell of Southern Shores"

The "Spell" Series is too well known to need any commendation from us, and as the first two of the series were from the pen of the same author, Caroline Atwater Mason, there is but little that we can offer in the way of praise that will not seem rather superfluous. As a charming narrative covering, the scenes and impressions of quite recent travel along Italian shores, from the Ligurian Riviera to Ionian and Sicilian seas, and thence to the Adriatic, with many loiterings on the way, the volume leaves nothing to be desired. With such a subject and with the author's pleasing style, an enjoyable volume could not help but result. The binding is beautiful, there are two full color illustrations, an excellent map of the country traversed, reproductions of famous paintings, and, what will interest our photographic friends, several reproductions of the photographic character studies of the well known pictorial photographer, Baron Von Gloeden. The price is two dollars and fifty cents net; carriage paid, two dollars and seventy cents. Published by The Page Company, Boston.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

Carl Lemigne, formerly with Bowman Drug Company, Fresno, has changed over to the Webster Drug Company, same town, where he now owns an interest in the store.

One of the best equipped studios in San Joaquin Valley is located at Tulare, and is owned by V. E. Hammond.

The writer visited the San Diego Fair and was not a little surprised. It is very fine.

Hallie Cody, with Bacon, of Long Beach, works hardest when Shirley is away. He had a cleaning-up fever while the writer was in town; his side partner, Miss Anzel, was also affected.

F. W. Seely, of Hartsook's Los Angeles Studio, now has an operator in the family. He put in his appearance the last of May.

Mrs. A. G. Reynolds, of Coalinga, is quite expert at frame making. She does the work for the Clendenon Photo Company and is a big help to Mr. Reynolds.

Dwight Faulding, of Santa Barbara, spent a few days in Pasadena recently.

Roy Overbraugh is back with the Flying "A" at Santa Barbara.

The Four Tanks

On another page will be found an advertisement of the Perfection Developing Tanks that are meeting with such unqualified approval from those who have given the Perfection Tank System of development a trial. The installation of this system cannot help but greatly increase the profits of any photographic finisher, and the live and progressive men in that line are rapidly equipping their plants with them. The tanks, although not heavy, are made of steel and are strong in construction. They are heavily enameled and consequently non-corrosive, assuring clean work and freedom from the usual developing troubles due to unsatisfactory tanks. An equipment of these tanks permits of nine-hour delivery being made both profitable and practical, and every progressive finisher should at once write for a copy of the booklet describ-

ing the Perfection Tank System of developing in detail. These booklets are gladly sent to any one inquiring for them by the manufacturers, the Northern Photo Supply Company, of Minneapolis, Minnesota.

The New Graflex Catalogue

This handsome new catalogue, like its predecessors, shows an extended line to the extent of three news forms and the fitting of the autographic feature to the 1A and 3A models. The new Compact Graflex, while the same size as the former 3A, as to picture, is less in weight and smaller in size. The Telescopic Revolving Back Graflex, and the Junior model of the same, are models that will fill a want with many workers and fill it in a manner complete and satisfactory. A new Graflex Roll Holder, one taking the Eastman Graflex Speed Film, is listed and described. It has a retarding ratchet that insures a flat film in the focal plane, a matter of no small importance in using lenses at large aperture. A reduction in price of the Auto Graflex is a matter that will interest. Do not neglect to send for a copy of this interesting new catalogue, addressing Folmer & Schwing Division, Eastman Kodak Company, Rochester, New York.

Printing With Cooper Hewitt Lamps

J. H. Sandidge, writing in *The Output*, the neat little house organ of the Cooper Hewitt Electric Company, Hoboken, New Jersey, says that while photographers have long recognized the value of the Cooper Hewitt lamps for printing developing papers, these lamps have not been generally adopted for this purpose because of the necessity of tilting the tubes for starting. With the perfection of the short automatic starting lamp, the bother of tilting has been eliminated, making these lamps ideal for this class of photographic work.

Most printing machines have some form of shutter for cutting off the light, and these can easily be equipped with one or two 200-watt lamps. These lamps have a decided

NOTES AND COMMENT

advantage in their extreme steadiness, as there is absolutely no flicker or change of intensity to cause waste of paper and loss of the printer's time, these last being frequently enough to pay for one of the best Cooper Hewitt lamps each year. In addition, the even illumination given by the tube and the ease with which the light penetrates the most dense negatives will appeal strongly to any practical photographer. Even the twenty-inch Cooper Hewitt tube will be found from thirty to fifty per cent faster than an arc lamp. The average time for printing varies from three to eight seconds, depending upon the grade of paper; for Artura paper, the average time is about six seconds; for Azo paper, about the same, and for Cyko paper, about four seconds. This would indicate that the Cooper Hewitt light has the marked advantage of speed and economy in addition to its other good qualities.

Some Useful Tables

We have just received a most instructive and informative little booklet, "Useful Tables for the Photographer," that should be in the possession of every photographic worker. It is one that will find constant use in the hands of those who wish to facilitate their work, as it contains such matter as tables for reducing and enlarging, table of depth of focus, table of distances from lens to subject, table of view angles, shutter speeds for moving objects, and an explanation of equivalent focus, back focus, angle of view, speed of lens, depth of focus, care of lenses, and the like. This booklet is published for free distribution by the Bausch & Lomb Optical Company, 624 St. Paul Street, Rochester, New York, and they advise that they will be pleased to furnish it to any one interested who will apply for a copy.

Colona Developing Paper

This paper, advertised for the first time in our pages this month, is a brand that we have given a careful trial quite recently in printing from some negatives made on new Record Plates. We used the Normal Semi-Matt as best suiting these good negatives and our own taste as to surfaces, but trial prints on the Glossy and Matt surfaces were equally satisfactory as to quality. The same papers in the Contrast grade were tried on some weak negatives with most surprisingly good results. All the prints show a remarkably long scale of gradation, ranging from

velvety shadows full of detail to sparkling high lights. We would advise our readers to send for samples and prices, addressing Sussex Photo Supply Company, Newton, New Jersey, doing so at once before the matter is forgotten.

P. P. I. E. Lantern Slides

We have recently had the pleasure of inspecting a set of Panama-Pacific International Exposition lantern slides made by our advertiser, A. E. Davies, of Berkeley, and must compliment him on the quality thereof. They were all taken from well-selected viewpoints; and, as a set of seventy-five slides, they give a comprehensive impression of the Exposition. We understand Mr. Davies rents out these sets with a little talk that can be used in connection therewith, for the modest sum of five dollars. Such of our readers as have a lantern available should appreciate this opportunity of allowing their friends to see the Exposition from a comfortable seat in their own home at the cost of about what one person would no doubt spend during a day there. Those interested in renting, purchasing, or having slides made, should get in touch with Mr. Davies, who is also advertising that he will do a limited amount of regular photographic finishing for those of our readers who are interested in, and who will appreciate work, such as he himself turns out, rather than delegates to the mercy of an employee.

Hathaway Portraits at the Exposition

The Sprague-Hathaway Company, of West Somerville, Massachusetts, have, in the photographic section of the Palace of Liberal Arts, one of the most pleasing and interesting booths in the building. They show a striking array of large portrait work, both in colors and monochrome, and in different mediums and styles, work such as they have been doing for hundreds of the best photographers for nearly half a century. The high quality and artistic merit of the portraits turned out by the Sprague-Hathaway Company are conceded by those enterprising photographers who have availed themselves of the firm's work to increase profits by placing the best in this line before their customers. The crayon and pastel work is exceptionally fine and the large number of interested visitors always in attendance at the booth will show any photographer how easily attention is secured with these fine framed portraits. Look

up their advertisement in this issue and send for a copy of their Illustrated Folder F, a new one ready this month.

The 1915 Ingento Book

We have just received a copy of the above and would advise all our readers to send for one before the matter is overlooked. It is a handsome catalogue and one that will greatly interest any of our readers, as it contains much information concerning photographic apparatus and supplies that the photographer will find most helpful. Particularly interesting are the pages devoted to the pictures and description of the new line of Ingento Junior Cameras, they being of the vertically opening model with round ends, made in the four popular sizes and selling for from six to twelve dollars. These are exceptionally good value and will no doubt enjoy a very large sale the coming season. The book can be obtained from Burke & James, Incorporated, 240-246 East Ontario Street, Chicago, who advise that they will be glad to mail a copy to any reader of our magazine who is interested in picture making by photography.

The New Record Plate

We have recently had the pleasure of trying some of these new plates, for which G. Gennert is finding such a ready sale among those looking for a good commercial plate that is sold with a liberal discount. While these plates are not of the most extreme rapidity, they have good speed and are certainly most gratifying in the ease with which they give good, snappy results such as are wanted in commercial work. The 5x7 size that we tried were given exposures varying from one twenty-fifth of a second to one of nearly half a minute on subjects varying largely in character, and in an ordinary pyrometol they all came out as excellent negatives that gave perfectly satisfactory prints on some Normal Colona paper which we happened to have at hand. Our readers who are interested in a plate of this kind should look up the advertisement in this issue and write the nearest Gennert house for samples and prices.

The New Velostigmat Booklet

Too late for mention in our last issue, we received a copy of this very handsome booklet describing the merits and advantages of the Velostigmat lens and other Wollensak products in the lens and shutter line. This

is a handsome piece of printing in two colors, interspersed with some dozen or more photographic reproductions that are tipped in and in this way given a most realistic and artistic quality. These illustrations cover a wide range of subjects, from portraits by leading workers to some wonderful examples of high-speed work. The booklet is one that should be in the hands of all our readers, and our advice to them is to at once send for a copy, which will be gladly forwarded upon request, to the Wollensak Optical Company, Rochester, New York.

Bissell College Commencement

The Bissell College held its commencement exercises Friday evening, May second, in the large assembly hall of the Engraving College and the following evening the class banquet was held at the G. A. R. Hall in Effingham. This marks the establishment of a regular commencement week each year that will doubtless bring together many of the former students who will desire to return at such times in obedience to their sentiment and feeling of devotion and loyalty. The exercises proved most enjoyable, and the attendance was much larger than was expected; in fact, the affair was one of considerable importance, the local papers of that enterprising little city devoting over a page thereto. Mr. Bissell is to be congratulated upon the success attending the function, indicating, as it does, the success of the school which he so ably conducts.

Illinois College of Photography

During the past month the College received visits from Mr. Locke and Mr. Reynolds. Both are employed in the engraving business in Chicago. Mr. Reynolds designed the cover for the September number of *The Mothers' Magazine*.

C. W. Frengen, one of our students, has returned to his home in Mt. Olive, Illinois, to take care of some Easter work. He will return in a short time and resume his studies at the College.

Howard A. Bailey, who recently purchased a studio in Salem, Illinois, left the past week to take charge. Mr. Bailey has been working in Montana since May, 1914.

Announcement has been received that R. Fred Bowman, student of 1914, has become a benedict. Mr. Bowman is interested in the Hamilton Camera Shop, at Waterloo, Iowa.

CAMERA CRAFT



SAN FRANCISCO
CALIFORNIA

What is the value of the Cyko trademark?

WE MEAN the tangible value, both to the consumer and the manufacturer. The consumer knows by experience—experience of 16 years—that when he uses CYKO he gets the best prints obtainable from his negatives, that he cannot determine the value of his negatives until he sees a print on CYKO.

His work need only be done once. He has no waste either of paper, time, or reputation.

What is the tangible value of the CYKO trademark to the consumer?

The manufacturer of Cyko has put in 16 years studying the best methods of compounding and mixing emulsions, purchasing secret formulas, buying and devising machinery, collecting data, and paying hundreds of thousands of dollars for experience.

In addition, the manufacturer has spent in 16 years hundreds of thousands of dollars showing the consumer the quality behind the trademark Cyko—demonstrating, teaching, advertising CYKO quality.

Yet Cyko is sold at about the same price as other papers.

What is the value of the Cyko trademark to the manufacturer?

A hundred dollars will be paid for the best answer.

AnSCO Company

Binghamton, N. Y.



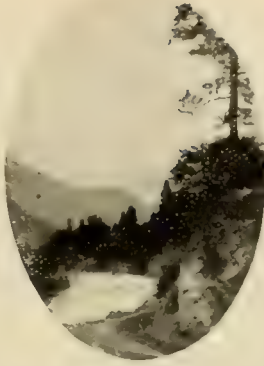
WOODLAND
By H. W. BARR, O. P. A. A.



CAMERA



CRAFT



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FAYETTE J. CLUTE, Editor

CLAUS SPRECKELS BLDG.

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Advantages of the Small Club

By Horace Sykes, Publicity Manager, O. P. A. A.



Illustrations by Members of Oregon Photo Art Association

There is no pursuit or profession, either for pleasure or profit, the devotees of which are benefited so greatly by co-operation as the pursuit of pictorial photography, and it is the aim of this article to show that the maximum amount of benefit is derived from the small club. To make the matter more clear and comprehensible, I will take the liberty of describing briefly the aims and methods of the organization to which I belong: The Oregon Photo Art Association, of Salem, Oregon.

In the first place, the Association has no elaborate constitution, and but few by-laws. Just sufficient of these last to state the name and purpose of the organization, together with a few well-chosen rules to direct its deliberations. The membership is limited to ten, that being considered the greatest number that can be successfully handled in a meeting, giving each member personal consideration. The officers are but three in number: president, secretary-treasurer, and publicity manager, and probably the last is the most important of the three, so far as the welfare of the club is concerned. It is his duty to arrange for public exhibitions, to give the club and its work publicity, in every way possible, that will help to encourage and enthuse its members, and to put the results of the club's efforts before people generally so that others may become interested and profit by it.

The regular order of meetings is to first dispose of the necessary business and hear remarks for the good of the club, after which the real work, the print study and criticism, is taken up. Each member brings his or her work to be



GRAY DAY

By R. C. PAULUS

that "two heads are better than one"; and that ten heads are even better, the remarkable advancement made by the club generally, and in particular by the members who are newly devoted to pictorial photography, demonstrate beyond a doubt.

The organization of a club of this kind is not a difficult matter, as neither is a studio nor anything else that will incur expense, necessary. Practically every enthusiastic worker has all the necessary equipment and conveniences, as well as a suitable place to work, so the thing left for a club of this kind to do is to furnish the stimulus for better endeavor.

Almost any number, no matter how small, can organize and derive much benefit from mutual co-operation. There is more danger in having too large a

considered by the club. In turn, the members submit their prints, and they are put upon the easel and studied and suggestions offered for their improvement. A picture is often reprinted several times and restudied before it meets with general approval.

Public exhibitions are given by the club quarterly, spring, summer, autumn and winter. Each member is represented in an exhibition by the same number of prints, and the selection is made by the remaining members of the club.

It will be seen that questions of all sorts will naturally arise in the print study, mechanical, technical and artistic. All are freely discussed, and no information is withheld. It is an old adage



WOODLAND MIST

By HORACE SYKES

ADVANTAGES OF THE SMALL CLUB

number than there is in having too small a one. Where the number is too great, the individual does not get the personal attention necessary for the best results.

I would urge earnestly that, where three or four, or more, interested in pictorial work, can get together, they organize, hold regular meetings, study each other's work, and exchange ideas and criticisms. They will be greatly surprised and gratified with the results.

The five prints reproduced herewith are selected from a recent public exhibition of the club's work held in the public library. While these are not the best that the club could produce, they are a good average, and show the class of work which the club is striving to improve.

The O. P. A. A. will be glad to hear from similar clubs, to exchange prints and promote interest in our art.




THE EAST PORTAL

By A. C. BARBER



MT. JEFFERSON, OREGON

By AUGUST NEUGEBAUER



Swat the Fly

By Geo. D. Jopson



With Illustrations by the Author

The most despicable, despicable, unsanitary and cuss-word provoking nuisance is that little, every-day house-fly. We all know how provoking the little pest can make himself during the morning doze that precedes our arising to commence the day's labor, and how persistently the little rascal will follow us around, until, upon our seating ourselves at the breakfast table, the filthy little insect proceeds to walk all over our food, get tangled up in the butter, try to take a bath in the cream pitcher or else in our cup of coffee.—Well! let us draw the curtain; we have all been there at some time or other. The fly is bred in filth. Its eggs are deposited in filth, which in turn hatch out filthy maggots, and these in turn become flies. The miserable pests will wallow in filth, then proceed to give us a sample of it by alighting on our food, and by so doing lay an excellent foundation for some dangerous disease. Flies are not only an annoyance, but they are a serious menace to health, one that should be combatted in every way possible. One can realize how much discomfort their presence involves by observing their own added comfort when resting in a well-screened room where these pests are not allowed to enter. A full appreciation of their dangerous character as carriers of disease germs can be gained from a little observation on the attention given to their exclusion from our hospitals and the like.

It is the duty of every person to destroy, or cause to be destroyed, the breeding places of flies. It has been calculated that a female fly that gets an early start and is allowed to breed under encouraging conditions will, by September first, have become the ancestor of twenty-seven septillions of flies. These figures are incomprehensible to the human intellect, but meaning is given to them by a supplementary calculation showing that that number of flies would make a cube the base of which would extend one hundred miles. This, although only a theoretical possibility, indicates that the "swatfest" should be made a continuous performance.

What do you suppose is the effect upon a refined person who comes into your studio and is offered her sample prints for inspection only to find that they are sadly fly-specked? Would you be surprised if she took her departure without leaving an order? What effect do you suppose it has upon one to have her pictures delivered in this same filthy condition through indifference on the part

SWAT THE FLY

of the photographer in the matter of flies in his studio? The decorations on mirrors, picture frames and walls, so willingly applied by the ever-energetic fly, are, of course, admired by our patrons. But are they not too apt to judge our motives thereby?

If you are prone to harbor the fly as a desirable accessory to your studio, pause and reflect upon the damage he may be doing you. When one is making a sitting, he is only too apt to "butt in" and light in some conspicuous place on the person posing, with the result that a resitting—of the person, not the fly—is necessary. They will do the same around your studio as they do at your breakfast table,—crawl all over everything you do not want them to touch.



A PLEASING EFFECT IN LIGHTING

It is an unlucky fly that wends his way into my studio. He may as well have made his last will and testament and engaged his favorite undertaker, for he is certainly entering the jaws of death. The other day a foolish one took the risk and paid me a visit. I had, just before, accidentally slopped some hypo on the workbench in the dark-room. The pesky little idiot lit right in that hypo and there I discovered him. As the Irish policeman said, in reference to the prisoner he had taken: "I hit 'im and missed 'im," with the result that Mr. Fly flew away into the workroom to alight upon a freshly mounted but still damp print. There he met his sad fate at my hands. I took the print, made a memorandum on the back, and then laid it aside. What I expected has since happened; there are a number of tiny faded spots on its surface to show where the feet of that fly had touched.

There is no studio in which there are not chemicals in a more or less unprotected condition by reason of either carelessness or accident. If the fly is permitted to enter and remain, he is going to cause more than a little damage. One may be a careful workman and take every precaution to turn out work that he is willing to stake his honor upon, but a miserable little fly can fix a print so that



A DAUGHTER OF NEW YORK

it will cause some person to doubt the sincerity thereof as to permanency. Did you ever think of that before? No! nor did I until the above mentioned experience. I have always detested the filthy little insects on account of their unsanitary origin and habits, and I have kept them away from my place of business as well as my home as much as possible; but now there is a well-proven reason why they should not be permitted in or around my studio, or the studio of any other conscientious photographer. Our neighbors may maintain breeding places for these troublesome pests, but there is no reason why we should permit them in our studios. Screens may possibly involve a fractional part of the damage the fly may do to

a business. Fit your studio with them and then inaugurate a "swat the fly" campaign.

Courage surrounds itself with successful forces in the same way that a resolute and skilful commander throws up entrenchments, establishes his lines of communication and brings to bear all his intelligence, skill and effort for the protection and strengthening of his position.—HERBERT EDWARD LAW.



The Four Factors In Enlarging

By Charles F. Rice



With Illustrations by the Author

Four factors enter into the making of a photographic enlargement. They are light, negative, lens, and sensitized paper.

Choice of the light will largely depend on the circumstances and environment of the individual photographer. My own experience has been mostly with daylight. But then I live in the country, where the buildings are not so high nor so close as to shut off the sky, and we have no electricity in the house. Also, I am situated so that I can occasionally "take a half day off" and devote it to enlarging. If I were a city cliff-dweller, or could enlarge only in the evening, I should perforce use artificial light. Either kind of illumination is efficient and satisfactory, though each has its own particular disadvantages as well as its own distinct advantages. Whether it be daylight or artificial light is immaterial so far as the quality of the enlargement is concerned, if the illumination is even and equable. My own limited experience with the electric arc light, both with condensers and without, leads me to believe that evenness of illumination is more



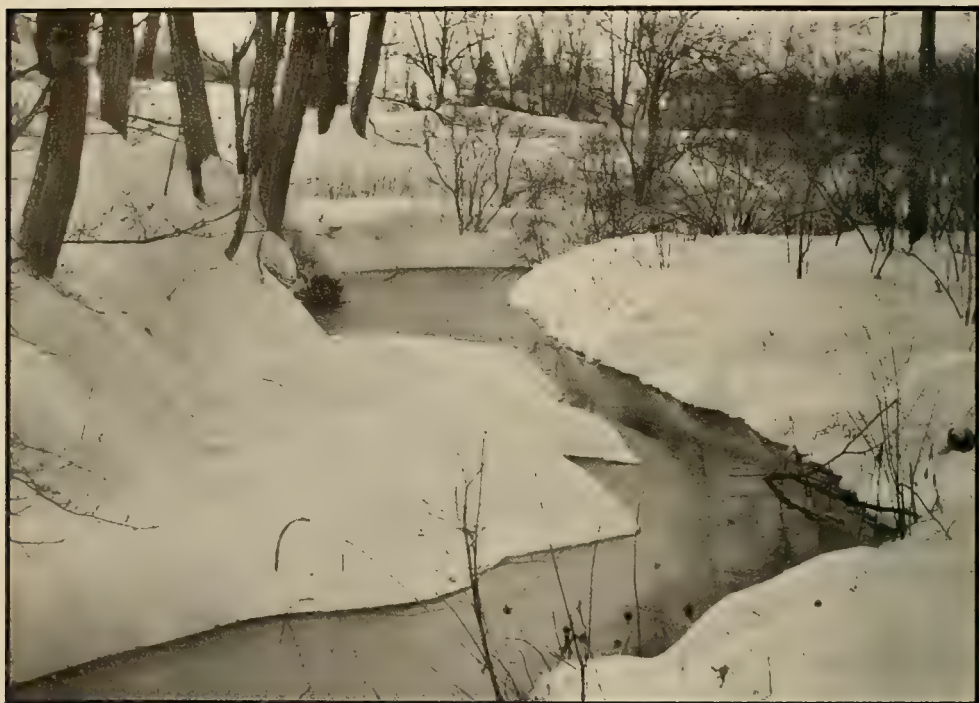
NEW YORK CITY HALL, SHOWING NEW MUNICIPAL BUILDING IN BACKGROUND—5x7 enlargement on Normal Cyko from portion of $3\frac{3}{4} \times 4\frac{1}{4}$ negative, made with three-inch Goerz Dagor. Very heavy clouds, one-fifteenth second exposure, f-11, Orthonon plate. Camera held in hand. Some missing limbs supplied by retouching.

CAMERA CRAFT

easily secured with daylight. I am also inclined to favor daylight, because it is cheap and cool.

Negatives that are to be used for enlarging should, for the best results, be clean, clear and crisp, but without excessive hardness.

Tiny scratches, pinholes and dust-marks on a negative that would produce blemishes scarcely noticeable in a contact print, come out as ugly disfigurements in an enlargement, hence the advice that the negatives should be clean. This



WINTER—5x7 enlargement from $1\frac{1}{4} \times 2\frac{3}{8}$ negative made with Goerz Vest-Pocket Tenax camera, Dagor lens, f-8, one-fifteenth second, exposure through five times filter, Orthonon plate.

demands extra care in keeping the inside of cameras and plateholders free from dust, and careful handling of plates and films, especially the latter, to avoid scratches.

Fogginess or excessive density in a negative obstructs the passage of light, and the obstruction of light is seemingly greater in enlarging than in contact printing. Thus a slightly veiled negative may be enlarged from with long exposure and a satisfactory result obtained; but a very thick or foggy negative, though it may be capable of a fair contact print, is usually quite hopeless for enlarging.

The quality in a negative that is most desirable for enlarging is obtained by giving only the required exposure, followed by normal development in a clear-working developer. Over-exposure, on account of the useless and obstructive density that it gives the negative, is almost as much to be shunned as under-exposure.

Personally I prefer, for enlarging, tray-developed negatives to those developed in the tank, and I have used both kinds; because, with the tank, there is

THE FOUR FACTORS IN ENLARGING

frequently a peculiar "edging" of high lights and deep shadows in the negative, which may not be noticeable in a contact print, but which will mar the appearance of an enlargement.

Of course, it goes without saying that any unsharpness in the negative is greatly magnified in the enlargement, which argues for careful focusing and a steady hand in making the original exposure. Tiny negatives of the "vest pocket" variety that are carefully made with an anastigmat lens, often contain a wealth of detail that is so microscopic as to be quite invisible to the naked eye in a contact print, detail that can only be fully appreciated in an enlargement.

Almost any lens that can be used for taking a photograph may also be employed for making an enlargement, but I do not mean to imply by that that one lens is as good for the purpose as another. The inexpensive fixed-focus enlargers are fitted with single achromatic lenses. They are capable of excellent work, but they are slow. Because of the meager correction of such lenses, they will give a sharply defined image only through a very small opening.



LOWER FIFTH AVENUE—5x7 enlargement and contact print on Normal Cyko from $1\frac{1}{4} \times 2\frac{3}{4}$ negative made with Goerz Vest-Pocket Tenax, Dagor lens, one one-hundredth second, f-11, Seed 30 plate.

I have used for enlarging several rapid rectilinears, including a wide-angle, several anastigmats of different speeds, and for certain diffused-focus effects I have lately experimented with the half of an old 8x10 wide-angle, which is only partly corrected chromatically.

Of all these different lenses, probably the most generally useful and satisfactory is an anastigmat of the f-6.8 type. A faster lens can sometimes be used to advantage, but if one is working for fine, crisp detail, it is not advisable to

employ a larger opening than f-8. The reason for this is to be found not only in the difficulty of getting an exact focus and the consequent necessity of using a small stop to correct such inaccuracy, but also because there occurs with a very large lens opening a certain radiation that is comparable to halation, and this destroys the extreme sharpness of line and detail, no matter how accurate the focusing may be. When focusing from a flat surface like the negative in enlarging, a good anastigmat at f-8 or f-11 will give definition as good as or better than that given by a rectilinear stopped down to an opening the size of a pinhole.

Diffusion may be desirable for certain effects. There are a hundred or more ways of producing softness, not to say fuzziness, in enlarging. The result that is obtained by deliberately throwing a highly corrected lens out of focus is not pleasing, at least not to me. A slight softening that is very agreeable is obtained, as mentioned before, by the use of a very large lens opening, f-6.8 or larger. If still more softness is desired, a special semi-achromatic or soft-focus lens is recommended.

It may be mentioned incidentally that the projection lenses which are ordinarily supplied with stereopticons are not suitable for enlarging because they are not properly corrected for photographic use. To get a sharp enlargement with them necessitates the employment of a very small opening, with consequent loss of speed. It is sometimes possible, however, to remove the lens which comes with the stereopticon and substitute the camera lens.

Whatever lens is employed for enlarging, it should be of sufficiently great focal length to be able to cover the largest negative from which enlargements are to be made; hence it follows that the lens with which the original picture was taken will be of suitable focal length to use in enlarging that same picture.

Paper that is suitable for enlarging may be roughly divided into four grades: Bromide paper, ordinary gaslight paper, ultra-rapid gaslight paper, and the slow "professional" gaslight paper. These four general divisions are capable of further subdivision, especially that which I have designated as ordinary gaslight, which comes in many diversified surfaces, different speeds and varying degrees of contrast. Various and diverse are the papers that may be used for enlarging, but perhaps I can give a general idea of them, one that will be useful to the reader, by characterizing the four classes first mentioned.

Bromide paper was the original enlarging medium and is still the paper most favored by professional workers; not, I am convinced, because it is the best for the purpose, but rather because professional photographers are so very conservative. I hope my professional brothers will forgive me that remark, but it is the truth to the best of my knowledge and belief. Bromide paper is very fast, very sensitive to light, and therefore has to be handled in a dark-room. While it does not demand the deep ruby light that plates and films require, an orange light is needed for safety. As to contrast, bromide paper is very soft-working; which means that unless the negative is too hard to give a good contact print on normal gaslight paper, the bromide enlargement made from that negative will be lacking in brightness, with no pure whites and no deep blacks. Bromide paper has to be carefully handled and is more liable to stains, marks and blisters than gaslight paper. It may seem that I am not favorably disposed toward

THE FOUR FACTORS IN ENLARGING



APPROACHING WEST POINT—5x7 enlargement on Hard Cyko from $2\frac{1}{4} \times 2\frac{1}{4}$ Icarette negative made with Zeiss-Tessar lens, f-8, one twenty-fifth second exposure, light ray filter, Eastman film.



INTERIOR—5x7 enlargement on Soft Cyko from $3\frac{1}{4} \times 4\frac{1}{4}$ negative made with a three-inch Goerz Dagor. Enlarged to 8x10, results compare favorably with 8x10 contact print from negative made with seven-inch Dagor.

bromide paper. Frankly I do not like it; and, while in capable hands, it is productive of excellent results, when used with negatives that are sufficiently plucky, it is to my mind the least desirable enlarging paper, especially for the amateur.

In parentheses, as it were, and as having an important bearing on the subject of the next paragraph, let me say that I have long cherished a certain ideal in my photographic work, an ideal that I fear I shall never fully attain, and that is to be able to produce regularly negatives of a uniform degree of contrast, so that all my negatives could be printed on one grade of paper and produce prints of uniform contrasts. I will say that the Thermo system of development has come nearer than anything else, in my hands, to attaining this goal of uniform contrasts, but that is another story. At present my negatives do vary considerably, and to obtain the best possible prints or enlargements from them it is necessary for me to keep on hand paper of two or three grades of contrast.

By "ordinary" gaslight paper, I mean the brands that are ordinarily advertised in such publications as *CAMERA CRAFT*, the amateur grades of Velox, Cyko, Argo, Rexo, Kruxo, Instanto, and a host of others. These papers, most of them, are supplied in three grades of contrast: Hard, for thin, soft negatives; Normal,



THE PATHWAY—5x7 enlargement on Hard Cyko from portion of Icarette film negative, Zeiss-Tessar, f-8, one-fiftieth second. Enlargements to 11x14 are excellent.



LADY NEWSY AT BROADWAY AND PARK ROW—5x7 enlargement on Normal Cyko from portion of Icarette film negative, made with Zeiss-Tessar, f-4.7, one-fiftieth second.

for negatives of ordinary contrast, and Soft, for hard negatives. To get the best possible contact prints from negatives of varying contrasts, the kind of negatives produced by most of those who will read this, I daresay, it is necessary to use, at different times, all three grades of gaslight paper, Hard, Normal and Soft.

Now, a negative that makes a good contact print on Hard gaslight paper also demands Hard gaslight paper if a good enlargement is to be made from it. Many times I have read that a softer grade of paper is required for enlarging than for contact printing from the same negative, but my own experience, which is somewhat extensive, does not bear out the statement. The negative that prints best, by contact, on Normal gaslight paper, will also yield the best enlargements on the Normal grade. And likewise with the Soft. This is one of the chief advantages that ordinary gaslight paper has over bromide and other papers, its coming in various grades of contrast which will accommodate negatives of varying quality.

Bromide paper is absolutely useless for enlarging from thin, flat negatives. No doubt some of my readers have discovered this, to their sorrow, when they sent such a negative to the "finisher" for an enlargement, very likely to the same finisher who had made a bright, crisp contact print from the same negative on a Hard grade of gaslight paper, only to have the enlargement come back, on bromide paper, dull, gray and lifeless. Of course, if this finisher had been bright enough, he could have made a bright enlargement on Hard gaslight paper, but he was a dull man—there are a few in the business—consequently he used bromide paper and produced a dull enlargement. Happily, there are some progressive men in the photo-finishing business, and I have before me the advertisement of such a one, which reads thus: "We make enlargements on gaslight papers only, because these papers yield snappier prints, with greater brilliancy and better detail than can be secured with bromide paper."

Gaslight paper is slow compared with bromide, perhaps twenty times as slow, but it is not so slow but what enlargements can be turned out on it, by daylight, faster than prints can be made from the same negatives on printing-out paper. And the speed that bromide paper has in receiving the light impression is largely counterbalanced by its slowness in development.

Ultra-rapid gaslight paper, made expressly for enlarging, is a recent product that may be described as a compromise between gaslight paper and bromide paper. I have used two kinds of these papers with considerable satisfaction: Enlarging Cyko and Brome Black. Enlarging Cyko is eight times as fast as Normal Cyko, and Brome Black is at least four times as fast as Enlarging Cyko, so it will be seen that the speed is ample. Naturally such papers will not stand much light except what comes to them through the negative. In other respects these papers work just like ordinary gaslight papers, but they incline toward softness and do not afford a wide range of contrast.

For bright, plucky negatives, there is no paper that will give quite such fine enlargements, in my opinion, as the slow professional gaslight papers like Professional Cyko, Platora, Artura Iris, etc. They are soft, yet bright, which sounds contradictory, but it expresses the distinction that exists between a print of that sort and one on bromide paper. A print on the latter might present very much the same contrasts, but instead of being "soft, yet bright," would be soft

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and flat. The slow papers are not much used for enlarging because of their very slowness; Professional Cyko, for instance, being five times as slow as Normal Cyko, forty times as slow as Enlarging Cyko, and one hundred and sixty times as slow as Brome Black.

The reader may infer from what I have said that with enlarging papers at least there is a tendency to sacrifice quality for the sake of speed. I believe there is **such** a tendency, not only in enlarging papers, but in plates, in lenses and in other things, nor is the tendency limited to photography. There are those who characterize this generation as speed mad, which may account for the photographic tendency I have mentioned. Remember, at any rate, that the speediest is not always the best; although when one really needs speed, he wants it badly, and the fastest papers, the fastest plates, the fastest lenses, the fastest automobiles, all have their uses.

Have I helped you at all toward the solution of enlarging problems? Let us see what I have recommended: An even light, a clean, clear negative, an f-6.8 anastigmat lens, and gaslight paper of medium speed. There is much more to be said in regard to the use of light, negative, lens and paper in the making of enlargements, but we will leave that for another story.

Two forces guide our material and intellectual life. We possess two means of acquiring knowledge and of practicing art; reason and experience. Impressions from without are the everlasting source of all our conceptions.—G. G. ZERFFI.



SNOW SCENE—LAKE PARK, MILWAUKEE

By PHILIP BENZ



Photographing Interiors by Flashlight

By C. A. Elstrom



With Illustrations by the Author

Some interiors are so well lighted that they may be photographed satisfactorily by daylight, but most of them require artificial illumination. The powerful and actinic light produced by the combustion of magnesium, in the form of flashlight, is generally employed. Plain magnesium as well as chemical mixtures containing it, called compound flash powders, are easily handled and give good results when properly used.

Instantaneous flashlight exposures are made by using the explosive powders; while time exposure of a number of seconds' duration may be made by using pure magnesium in a blow-through lamp. If the flashes themselves be kept out of the view encompassed by the lens, the same interior may be given a number of exposures in order to secure more even lighting. The rear of a room, for example, may be more fully lighted by a supplementary flash through an open doorway or from behind some corner or partition.

Any camera may be used, but for serious work, sizes ranging from 5x7 to 8x10 are best suited. A very satisfactory type of camera for flashlight work is one having a rigid front carrying the rising and falling lens board, one focusing from the back, the back reversible, and with both vertical and side swings. With the ordinary front-focusing camera, care must be taken to see that the extending bed or run is not included in the view when a wide-angle lens is being used. A double spirit level fastened to top of the camera is a great convenience in leveling. Rubber crutch tips attached firmly to the ends of the tripod legs will prevent their slipping on ordinary floors, but a tripod stay should be used when a more slippery surface is encountered.

The lens is the most important part of the equipment. The ordinary rapid rectilinear will give good service if used intelligently, but for the best results an anastigmat must be employed. The latter will cover sharply the same or a larger field and do it with a larger working aperture, focal lengths being the same. From the same standpoint and focused on a given object, all types of lenses having the same focal length will give images of the same size on the ground glass. Thus, a ten-inch portrait lens, a ten-inch view lens and a ten-inch wide-angle lens will each give a five-inch image when ground glass is about thirteen feet nine inches from a six-foot figure, and each will include the same amount of view on any one given size of plate.

There is much misunderstanding regarding the perspective rendered by lenses of different focal lengths. Lenses that are free from distortion, placed opposite the center of a vertical plate, will all give the same perspective, or drawing, irrespective of their focal lengths. However, as the focal length and

PHOTOGRAPHING INTERIORS BY FLASHLIGHT

covering power of the lenses vary, more or less of the subject matter will be included. Those lenses that include the most of the subject, called wide-angle ones, appear to have more violent perspective on that account, but the subject matter rendered by all the lenses, that at the center of the view, will have exactly the same perspective in each case.

But to make a truthful impression, a photograph should embrace only so much of the view as can be seen at one time by the eye; and, if viewed when held at a distance from the eye approximating the focal length of the lens with which it was made, the perspective will appear correct. The normal human eye sees most easily a photograph held at a distance of about ten and one-half inches, and pictures are usually held at about that distance. Therefore, a lens of ten and one-half inches focus gives the same perspective as that seen by the normal eye, and the nearer the focal length of the lens approaches this length, the more naturally the perspective is reproduced. With a lens of less than this focal length, the shorter such focus the greater the apparent exaggeration of the perspective, because the eye is not adapted to viewing a photograph held at the same distance from the eye as the focal length of such short-focus lenses. However, if the photograph is viewed through a collecting lens of equal focal length to that with which the picture was taken, the perspective will then appear quite natural.

With a lens of a given focal length, the larger the plate it will cover the greater its angle of view when used, of course, on that larger plate. A lens of five-inch focus includes an angle of only forty-six degrees on the long side of a $3\frac{1}{4} \times 4\frac{1}{4}$ plate, but if the same lens stopped down covers a 5×7 plate, the angle included is then seventy degrees on the long side of the plate. When the angle embraced is sixty degrees or more, the lens is generally spoken of as being a "wide-angle" one. Lenses made specially for wide-angle work naturally include the widest possible angle of view, and usually their largest opening is one-sixteenth of their focal length, expressed f-16, though some of the newer ones have working apertures as large as f-9. Some of the anastigmats ordinarily employed as narrow-angle lenses with large apertures give excellent results as wide angle lenses when stopped down and used on larger plates.

Usually, in giving an order, the photographer is told to "get as much of the place in as you can," and a photograph is wanted that is sharp throughout. The short-focus, wide-angle lens is the best for both of these requirements. The shorter focal length gives greater depth, and this quality is further augmented by the small stop required. Though the wide-angle lens gives an apparently false perspective, making the interior appear larger than it really is, this exaggeration is considered an advantage in most cases.

The flashlight may be produced with a magnesium storage lamp, by igniting a compound flashlight powder, by burning flash sheets, or by using flashlight candles, the last being rarely employed in this country. The magnesium storage lamp is commonly called a "blow-through lamp" or simply, "blow lamp." Essentially it consists of a storage chamber to hold the pure powdered magnesium and a tube opening thereinto through which air is blown, forcing the magnesium through a "spreader" into the flame of an alcohol lamp. The burning magnesium gives an intense, bluish light, that is very actinic. In use it has the following

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advantages: It is non-explosive, long or short flashes can be produced, a number of flashes may be made without recharging the storage chamber, and the cost per exposure is less than with flashlight compounds. One should never, under any consideration, put or use a compound flash powder in a storage lamp, as it will explode and probably seriously injure the user. Test the powder from each container before using in a blow lamp by igniting a small heap of it. If it burns instantly with a slight explosion, it is the explosive compound powder and should not be used in such a lamp. If it burns slowly, it is the plain magnesium and safe for a blow-through lamp.

Compound flash powder is used either in cartridge form or the loose powder is ignited in the open pan or trough of a flash lamp. Flashlight cartridges contain a given amount of powder; and, while they can be used as received, they are frequently placed in some form of flash lamp and ignited either by a fuse, cap, or electrically, making them very convenient to employ. There are a large number of lamps on the market designed to fire the loose powder by means of a toy percussion cap, electricity, alcohol flame, spark-producing metal, or matches. For exploding a number of simultaneous flashes, an electric current is the most reliable. To prevent the diffusion of the obnoxious smoke, gases and dust produced, the flash lamp is sometimes placed inside a large "flash bag" made of fireproofed, semi-transparent fabric. This softens and diffuses the light, although about one-third more powder is required to produce an amount of light equal to that given by an open flash.

Some flashlight powders are considerably more actinic than others, and there is a wide difference in the efficiency of different types of flash lamps. The amount of light produced is practically directly proportional to the area of the flame. Therefore the lamp which produces the largest sheet of flame from a given amount of powder is the most efficient. Generally, a number of small flashes ignited simultaneously will give more light than the same amount of powder set off in one heap. To prevent closed eyes, the entire amount of powder used should be completely burned in about one fifteenth of a second or less. The slow-burning or portrait powders give the most light and are excellent for interiors; but, if there are people included in the view, they should look away from the source of light and be cautioned to remain still during the exposure. The small quantities of slow powder required for portrait work are entirely consumed before the sitter's eyes start to close, but the larger quantities needed for lighting interiors burn so slowly that in most cases the eyes will present an unnatural appearance or be entirely closed. For most work the ordinary fast powder is the best, as large quantities of it may be used without getting closed eyes. Compared with the slow powder, it produces less light, has an explosive combustion and usually gives more smoke. The extra fast powder should be used in factories, laundries, etc., because it shows the minimum of motion in any figures included. Small quantities of some extra fast powders will burn in about one one-hundredth of a second. These give less light than the fast powders and burn with a snappy explosion. It is best to use a number of small flashes, set off simultaneously by an electric current, when using the extra fast powder, as this will lessen the resulting report and concussion, while giving more light and a shorter exposure.

PHOTOGRAPHING INTERIORS BY FLASHLIGHT



BARS AND BUFFETS ARE NOT DIFFICULT BY FLASHLIGHT

The majority of practical photographers use the compound flash powder, as it gives a more intense light, less smoke, and is less liable to show motion than other form. Its more intense illumination lights up objects in the rear of the view much better than does an ordinary blow lamp, and these powders produce a larger and brighter flame. The loose powder must not be handled or placed in flash lamp near any stove, flame, or any light except an incandescent electric



FLASHLIGHT OF A TYPICAL SMALL STORE

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bulb. Being explosive, it is dangerous and unlawful to ship it as baggage or by mail, either by itself or with other articles.

Flash sheets give a broad, soft light; and, used in a metal holder, are the easiest and safest means of producing a flash. While they burn comparatively slowly, the writer strongly recommends them for amateurs' use.

The amount of powder necessary for any particular exposure depends upon the size of the interior, the color of its walls and ceiling, the lens aperture, the speed of the plate, the brand of powder, the form of lamp, and to some extent upon the developer. Judgment in the matter is best acquired by experience gained through individual experiments. As a rough guide, using a Seed Gilt Edge plate and lens working at f-16, a room, 15x30 with fifteen-foot ceiling and light-colored walls, the writer would use about three drams of powder; with medium-colored walls, about four and one-half drams; and with dark walls, from six to eight drams.

If the amount of powder required to light a certain sized room is known, the quantity required for any other room may be ascertained by applying the physical law of inverse squares, namely, that the intensity of light varies inversely as the square of the distance. This law is only absolutely correct in the case of light originating from a point and without reflector, but the principle should be understood by the flashlight photographer as a basis on which to work intelligently. Put in other words, the intensity of the illumination decreases as the distance between object and the source of light is increased, in proportion to the square of such distance. A lamp giving a light equal, at one yard, to sixteen candles, will give an intensity of only four candles at two yards, one-quarter candle at eight yards, and, of course, to produce the sixteen candles of illumination at a distance of two yards from the source of light, a lamp four times as powerful must be used. But this law of inverse squares is only approximate; for light having the comparatively large area at its source produced by burning the amount of flashlight powder necessary to photograph comparatively large interiors, only about three-fourths of the theoretical amounts of powder are required.

An interior in which the dominating color is dark would require about twice as much powder as does a light-colored room of the same size; if the color is medium in tone, about one-half more powder than the light-colored one, other conditions being equal. A fast plate requires less powder than a slow one, and less powder is needed the larger the f value of the lens aperture.

To apply the above, suppose it has been found that a room twelve feet long, having dark colored walls, requires one and one-half drams of a certain make of flashlight powder, using f-16 stop and a Seed Gilt Edge plate; and one wants to find the amount of powder necessary for a room eighteen feet long, other conditions being the same. Dividing eighteen feet by twelve feet gives one and one-half, and squaring this gives two and one-quarter. Multiplying two and one-quarter by the one and one-half drams required for the twelve-foot room gives a figure that, by taking our theoretical three-quarters, shows that to compensate for the larger source of light, a trifle over two and one-half drams is the amount needed for the eighteen-foot room. These figures are of course only approximate, as measurements and method are not absolutely accurate. If, instead of f-16, an aperture of f-22 is used in order to get greater depth, twice

PHOTOGRAPHING INTERIORS BY FLASHLIGHT



OFFICE INTERIORS ARE GOOD FLASHLIGHT SUBJECTS

as much powder, or five drams, must be used; stop f-22 admitting only half as much light as does f-16.

Large plates require more exposure than small ones when including the same angle of view and the same depth of field, for the reason that a stop having a smaller f value must be used to secure the same depth with the necessary longer focus. To include the same angle of view on the base of any two plates, the focal lengths of the lenses used must be directly proportional to the base of the respective plates. Thus, a five-inch lens gives an angle of seventy degrees on the seven-inch side of a 5x7 plate, and a ten-inch lens gives the same angle, seventy degrees, on the fourteen-inch side of an 11x14 plate. To give the same depth, the actual, not the f- diameter of the two stops must be the same. As an example: A lens of five inches focal length is found to give satisfactory depth in rendering a certain interior when stopped down to f-16, and one wants to know what stop to use on a two and five-tenths inch lens, a ten-inch lens and a fifteen-inch lens, to get the same depth. Compared with the five-inch lens, the ratios of their focal lengths are five-tenths, two and three, respectively. Therefore, to get the same depth as is given by the five-inch lens at f-16, the two and five-tenths inch lens must work at f-8, four times as fast; the ten-inch lens at f-32, one-quarter as fast; and the fifteen-inch lens at f-48, one-ninth as fast. And it will be found that the actual diameter of all is the same. From the above it can be seen that, with the same angle of view and depth, the exposure, and consequently the amount of flashlight powder required, varies as the square of the focal length of the lens used.

The above cases are approximately correct only when the flame areas are proportional to the amounts of powder used, and when there is no other actinic light, such as daylight, to aid the flash. If the powder is old, it will not work so

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well as when fresh, due to oxidation of the ingredients, particularly the magnesium. There is even a difference in the action of the same kind of powder due to the humidity of the atmosphere, the combustion being more energetic in a dry climate. Because these factors are variable, there is no practical way of determining absolutely the amounts of powder required for any particular case. The best guide is experience. If in doubt at any time, add more powder; the latitude of plates is much greater in the direction of over than in that of under-exposure. One rarely if ever sees a badly over-exposed flashlight negative.

The fastest plates obtainable should be used, as they give better results, and in the case of large interiors they are more economical because the combined cost of the plate and the smaller amount of flashlight powder needed is less than the cost of a slow plate plus the greater amount of powder required for its proper exposure. The writer has found the Seed Gilt Edge entirely satisfactory for his general work.

When photographing the ordinary small interior the most pleasing results will be secured with the camera about five and one-half feet from the floor. With large interiors the camera should be elevated so as to insure the best general view. When a wide-angle lens is used, the flash or flashes should be behind and above the camera. If more than one flash, they should, when figures are included, be set off simultaneously in order to avoid movement being registered. When photographing a quite deep room, it is advisable to use several flashes along its length if their flames can be concealed from the lens by partitions, bends in the wall or open doors. An electric current is the most reliable and practical means of igniting a number of flashes at the same instant, especially when they are widely separated. Great care must be taken to see that a flash is not set off near curtains or other easily inflammable material. If large quantities of powder, particularly of the extra fast kind, be set off in a small or narrow room, doors and windows near the flash should be opened to prevent damage from the resulting concussion. Compound flashlight powder must not be kept in metal containers; a wooden box or a glass bottle fitted with an ordinary cork is best. After removing the required amount of powder, immediately cork the bottle or place the cover on the wooden box, as the case may be, and place under cover where it will be safe from any stray sparks or flame.

If there are any mirrors in the room, with the eyes in the position of the lens, see that no reflections of the flashlight appear on their surfaces, as such reflected light would enter the lens and fog the plate. If it is not practical to avoid such reflections from the flash, the offending mirrors can be frosted or covered with white paper. In small interiors, such reflections can usually be avoided by elevating the flash; or, if the mirrors are movable, by inclining them at a slightly different angle.

The interior should not be darkened for a flashlight exposure. As much of the ordinary lighting as is available should be allowed to assist the flash. So doing will also prevent the unnatural appearance of the eyes of those included in the picture. Even if a considerable amount of actinic light illuminates the room, it will do no harm if the shutter is closed immediately after the flash. A flash lamp having its pneumatic igniting device operated by the same bulb that works the shutter is very convenient in such cases. If the shutter and the instan-

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taneous flash are operated simultaneously, windows through which strong daylight is passing may be included in the view and they will not show any trace of halation if the flash is of sufficient strength. If the outside light is neither too strong nor too weak, the view seen through the windows will, in the resultant negative, respond to "straight" printing with the best results.

Flashlight exposure must not be made when there is a noticeable amount of smoke, vapor, or steam in front of the camera, as the light will be reflected into the lens and fog the plate badly. This also applies when there is an unusual amount of dust floating in the air, as in cement and plaster mills. If two exposures are required on the same interior, the second must follow quickly before the smoke produced by the first has had time to diffuse throughout the room. Of course, the second exposure may be made after all the smoke from the first flash has cleared away, but this usually necessitates a long wait.

Closed eyes are caused by too slow burning of the powder, eyes held closed during the flash, or eyes starting to close just as the powder is ignited. Sometimes very pale blue eyes will photograph practically as white when the powder used is one that gives a bluish-colored light.

When photographing garages and dyeing and cleaning establishments by flashlight, be sure that there is no exposed gasoline in the place. Unless those in charge, after thoroughly understanding the nature of the flash, assure the photographer that it is perfectly safe to do so, no flashlights should be made in flour mills and the like, as flour dust is explosive. In cotton, silk and woollen mills, the fine lint in the air is very inflammable and may even be explosive. In distilleries, oil refineries, paint-manufacturing plants, chemical works or places where explosives are made, there are generally explosive vapors and much very inflammable material about.

Tank development gives far better results with flashlight exposures than does developing in a tray. A developer which gives soft negatives should be used and the writer finds the following to give good results with Seed, Standard, Central and Vulcan plates, and it will probably do so with other makes. It should be made up fresh each time.

Pure water	160 ounces
Metol	12 grains
Pyro	1 dram
Sulphite of soda, Eastman's.....	3½ drams
Carbonate of soda, Eastman's.....	2 drams

Develop twenty-two minutes at sixty-five degrees Fahrenheit. Seed Gilt Edge plates should be developed about six minutes longer. The tank should be reversed several times to insure even density. A small difference in the amount of metol makes considerable difference in the negatives, a very small addition giving more density. This developer can be used for a second batch of plates, but a slightly longer time is required to get the same density. This developer may give a very slight amount of fog that is not objectionable because not noticeable in the prints.

Three grades of paper, hard, medium and soft, should be kept on hand, and the one used that is best suited to each negative. A convenient way of "dodging" is to use matt celluloid, held in place, face up, by three strips of cardboard

whose outer edges are tacked to the outer edges of three sides of the printing frame's front. Applying Prussian blue or other coloring matter to this will hold back the printing of thin parts, and rubbing on vaseline or oil will make the desired parts more transparent and cause dense portions to receive more light. The celluloid sheets are easily washed and dried after using.

In closing, the writer earnestly advises the photographer against the mixing of his own flash powder. It is very dangerous, and especially so when not done under experienced supervision. The reliable brands of flash powders on the market give better results, are safer and more satisfactory to use, and the cost of the powder is such a small part of the value of the finished photographs, that the saving is not worth the risk.



PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

SQUEEGEED PRINTS STICKING: Squeegeed prints will occasionally stick to the glass or ferrotype plate on which they have been placed to dry, despite one's best care. When this happens, the remedy is to apply formaline by means of a brush until the print is well soaked through and allow it to again dry. The print will then come away without any trouble.—T. R. E., California.

PREVENTING PRINTS CURLING: I find that the old method of treating the old-style curling films quite to my liking for prints, although it may possibly not be the best or even the proper procedure. I make the solution by adding one-fourth ounce of glycerine to sixteen ounces of water. The prints should be allowed to remain in this bath for about five minutes, following washing, then blotted off and dried as usual.—John Harrington, Jr., Mass.

WATER MARKS ON MATTE PRINTS: Carbon and semi-matte surface prints on developing paper will occasionally show spots of a different texture from the remainder, due to a little surface water collecting at that point during the drying of the print. While the manufacturers have advised me that there is no remedy for these, I find that immersing the prints in a weak solution of alum, one ounce of alum in twenty to thirty ounces of water, and bringing the solution to a temperature of about one hundred degrees Fahrenheit, will cause them to disappear when the prints are again dried.—J. P. Edwards, California.

SUBSTITUTE FOR FLASHLIGHT POWDER: I have a memorandum in my note book covering some experiments, reported as successful, in a foreign magazine a number of years ago. The plan was to place a few leaves of aluminum in a dry bottle containing oxygen gas; when, by applying a lighted taper to the top leaf, the contents burned, giving a powerful and actinic light. The weight of the gas is such that it does not at once escape from the open bottle, the latter being suspended in the desired position by means of a wire. I would

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like to hear of some reader who has oxygen gas available giving this a trial. The light is said to be stronger than that given by an equal amount of flash powder, and aluminum is now much cheaper than magnesium.—H. G. F., Ohio.

COPYING MATTE PRINTS: I recently had to copy a lot of prints on matte developing paper and experienced no little difficulty in overcoming the grain. I used a good diffused front light on the prints, but even then there was some indication of grain due to the light being just a little stronger from one side or the top, giving every irregularity of the surface a slight shadow. Finally I bethought myself of an old dodge I had read somewhere, namely, smearing the face of the print with glycerine and squeegeeing it down onto a piece of glass. This plan was adopted with the most gratifying results. The glycerine is not hard to clean off and not much is required if one works quickly and makes the exposure before the small quantity used can dry or run apart.—M. N. B., Illinois.

REMOVING INDELIBLE INK: Some time ago I had the misfortune to have indelible ink spilled on a prized negative, the stains being about the size of an ordinary pearl button. After much experimenting I succeeded in getting rid of the blemishes in the following manner: I first removed all that was possible with absorbent cotton and clean grain alcohol. I then soaked the negative in a saturated solution of carbonate of soda, the solution being made by using hot water so that it would be as strong as possible when cooled to about sixty-five degrees Fahrenheit. The negative was left in this until the stains disappeared, and no anxiety need be felt in this direction, as soaking the negatives in this strong solution overnight did them no harm. Thorough washing completes the process. This suggestion may prove of value to others, should a like accident occur with them.—H. A. Voltz, California.

COPYING SAME SIZE: I have frequent calls for copies of prints and clippings that are to be the exact size of the originals. Tiring of adjusting the camera and focus each time, I very carefully set the camera to make a same size copy and then took four pieces of thin wood and made a parallelogram-shaped frame that just filled the space between bottom of the easel on which I pinned my copy and the bottom of the box-like support to which my camera is fastened with a tripod screw when copying is being done. I of course took care to make this frame with perfectly square corners and rigid enough to maintain its true form. Now all I have to do when making a copy same size is to pin the original on my easel, lay this frame down in front of and touching the latter, and shove the camera support up against the other end of the frame. I then know that the camera is perfectly square with the print being copied and that the camera is at the right distance and only needs adjusting of the focus by means of the rack and pinion as usual.—F. D. S., Ohio.

PROTECTING DEVELOPING PAPER: We all use developing paper and most of us keep it in a drawer while printing. It is quite true that one can school himself to immediately close the drawer after removing a fresh sheet, but in the process of making this an automatic or instinctive action, the drawer is occasionally left open, with disastrous results when the light is turned on. As my own drawer is not nearly so deep as the shelf or bench below which it slides,

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I bethought myself of screwing a small pulley to the under side of the shelf, behind the drawer, rigging it to take a stout cord with one end attached to the back end of the drawer and the other carrying a weight. Pulling out the drawer to get at its contents is made but little more difficult by the small weight, and the moment the hand is removed the drawer is drawn closed. In fact, the task is not increased, as one is saved the motion and effort of closing the drawer in return for the slightly increased work of pulling it open.—J. H. G., Oregon.

THAT GROUND GLASS PRINT TRIMMER: In this department in the May issue, Mr. Buhrmeister stated that a great improvement would ensue from having the cutting edge of the glass strip ground straight and true. If the length be not too great, say in the neighborhood of ten inches, one can himself do this grinding with the aid of a carborundum stone, such as is used for sharpening knives. Select one of the narrow surfaces of the stone that is true and plane through not having been used. Lay the stone on a table with this narrow surface against a strip of wood just thick enough to raise the glass, when placed on top, to the center of the stone. Holding the stone with one hand, the glass strip, resting upon the strip of wood, is pressed firmly against the stone; and, taking care to keep the pressure uniform throughout, slide the glass forward and back. If the glass is held with the finger tips at the center and the pressure applied at that point, the two ends will in turn receive an equal amount of grinding and the edge will be made perfectly straight.—C. A. Harris, California.

AN IMPROVISED TRIPOD: I read, some time ago, of a worker who had made a final decision to always take a tripod along, no matter how great the inconvenience, because of "that one picture" that always presented itself if the aforementioned animal was not at hand. On a long, hard trip the ordinary tripod may easily become a burden, and I would like to suggest another means by which "that one picture" can be managed. Take an old tripod head of generous proportions and remove the metal catches from the under side; or, if such is not available, a suitable circle of wood can easily be fitted with a tripod screw and its retainer, costing but a few cents. On the under side of this top fasten three pieces of inch-square wooden strip to form a triangle with the tripod screw as its center. With a top of this kind and a stout piece of cord, one then needs only three sticks about the size of an ordinary cane, although preferably somewhat longer. Holding the sticks tightly together, they should be wound about with the string at a point from six to twelve inches distant, depending upon their size, from what will be the top. Fixing the tripod top to the camera and placing it to rest upon the upper ends of these sticks, one will find that as the lower ends are spread apart they will catch in the corners of the triangle on the under side of the improvised top; and, as the spread is increased, will bind and hold it quite securely. Rough country is generally wooded to some extent and I have never found it very difficult to secure the necessary material to complete this arrangement when I had the top along. One can, however, manage a great many situations by simply carrying the length of stout cord and tying the camera to a tree, a fence, a rock, or anything that comes handy. One need not smile at this last suggestion, as it would be quite possible to tie the camera to the corner of a house if the cord be long enough to go around it.—C. A. Harris, California.

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That Competition of Ours

As promised last month, we are reproducing herewith a few of the pictures that have appeared as cover illustrations for farm papers, these particular ones having been used by *Farm and Fireside*, of Springfield, Ohio, one of the best known agricultural papers published. These are not offered as models to be followed or examples to be copied, but simply to show our readers what has been accepted as suitable for the purpose. Still further, these particular ones are not submitted as ideal, either in subject or treatment. They may all have their faults



from the editorial point of view and they may have been used only because nothing better was at hand. No doubt it is a rare occurrence for a picture to be offered that is really just what an editor of such a publication feels would interest a major portion of his audience, widely diversified as to tastes.

We hope, before the competition closes, to be able to show a few examples of work sent in, together with some sort of criticism from one of the editors of our several farm papers using such pictures on their covers. We shall try to be of real help to those of our readers who will interest themselves in this competition, as we want them to find therein a means of adding to their knowledge of the actual requirements that must be met in producing salable work. We would not lead our readers to believe that the financial rewards are such as to alone justify them in high hopes; but we can safely claim, as we did last month, that working to a definite aim, as one must in this case, is productive of much benefit to the photographer.

And our readers will please not be backward or slow in sending in prints. We want simply the small, contact prints that are easily made; enlargements or special prints are not necessary. As we will not return any of them and will not even acknowledge their receipt, we are not at all afraid of having too many sent

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in. While we want those who can do so to make special exposures for this competition, there should be enough good farm scenes among the negatives of our readers to make this a noteworthy competition if their owners will but send along the prints. There are no rules and no restrictions. Send in what you have at once and send in anything you may make later to reach us before October first. The reason for asking for some prints at once is to enable us to bring this competition, and the picture entered therein, to the attention of possible purchasers before the closing date. By getting the attention of the publishers of the farm papers, we can, of course, add greatly to the benefits our readers may derive. With the interest of the users of such pictures aroused, we need only the hearty co-operation of our readers who are in a position to supply what is wanted. We might add that none of the pictures sent us will be given out, our plan embodying only the putting of the maker and the possible purchaser in touch with one another.

Mr. Lindsay Here

G. Archer Lindsay, the genial and lovable missionary who represents the Anderson Supply Company of Seattle throughout its territory, paid San Francisco and the Exposition a visit the latter part of June. Business is good throughout the Northwest, considering the general conditions, and Mr. Lindsay holds a most optimistic view of the situation ahead for the photographic trade.

Mr. and Mrs. Cramer In San Francisco

F. Ernest Cramer and his charming wife, a former resident of this city, are stopping at the Inside Inn and enjoying the Exposition and the renewal of old acquaintanceships to the full. Both have a host of friends in this city and their popularity would impose cares and responsibilities on a pair less generously endowed with good humor and good spirits. Always most welcome, their visits are enjoyed by their many friends to a degree that should well reward them for the demands made upon their time and their capabilities as favored guests.

That Which Lives

That in man which does not perish is his personal influence. Since we are creatures of environment and heredity, if you wisely shape the environment of those about you and transmit that which is good to your—and their—posterity, you will live. And the waves of time shall dash impotently against your life, next year and next century. You will be living ten generations hence in ten thousand or ten times ten thousand descendants of yourself and of those whose lives your life beneficently influenced. And you cannot buy life with gold nor with great works that pay dividends in dollars, but with service and self, coined into deeds of unselfishness.—EDWIN LEFEVRE.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Correction of Distortion In Enlarging

This subject has already been discussed in this department. A recently patented apparatus by Mr. Meeker in England is designed to automatically correct all forms of distortion due to faulty position of the camera. The *British Journal of Photography* recently discussed very thoroughly the mathematical and optical principles involved, and among other statements, makes the following which is likely to be of value to our readers:

"Of course, in this mathematical investigation a strictly accurate solution is aimed at, but it is obvious that there are degrees of inaccuracy which are quite negligible, and if we always enlarge on a scale of at least two diameters, the errors introduced by using the original lens instead of one of greater focal length are of a negligible order, provided the degree of distortion is not too violent. Also, the angles of tilt will be adjusted with sufficient accuracy if we first of all correct the convergent distortion by tilting the copyboard alone, and then, having found the angle of that tilt, reduce it by one-third and correct the distortion thus re-introduced by inclining the negative until parallelism is restored. With this arrangement, there will be little fault to find with either height or focus, provided the tilt of copy does not exceed sixteen degrees. By using a longer focus lens we can diminish the errors still further, and as smaller tilts are also required the longer focus is more convenient. This modified approximate method was given in the *British Journal Almanac* for 1910."

Copper Bromide for the "Equalization" of Negatives

Redevelopment after bleaching a negative with copper bromide is a process which is very seldom mentioned as being a serviceable method of improving a negative, owing, I imagine, to a misunderstanding as to the proper function of the operation. It is of little use for general intensification, although

very thin negatives may be slightly improved thereby; but for strengthening the shadows, and at the same time reducing the high lights, of "soot and whitewash" negatives it is unequalled, and far surpasses ammonium persulphate, which is sometimes erratic in its action. Since there are many negatives which are faulty because the high lights are too opaque while the shadows are almost plain glass, a description of the method, which is simple and inexpensive, may prove of service.

Fifty grains of copper sulphate and fifty grains of potassium bromide are dissolved in ten ounces of water. Exactness in weight or measure is of no great importance in this case. This forms a bleaching solution, which appears to keep indefinitely, and may be used again and again until it ceases to act.

The negative, of course, must be well fixed and washed. If it is dry it is advisable to soak it, in running water for choice, for about fifteen minutes, and it is then bleached in the above solution. It is highly important that the bleaching should be thorough and should be allowed to proceed until the high lights are white right through to the glass, as it is this undermost layer of the silver image which is dissolved away when reduction is necessary.

After bleaching a short washing follows. This need not take longer than fifteen minutes, and it is then redeveloped in metol-hydrokinone, or in a similar developer. Used developer is rather better than fresh, as being slower there is more control. Development must be watched carefully. The shadows will soon develop fully, the high lights proceeding as quickly, but continuing to develop after the shadows are complete, on account of the extra thickness of the deposit. Here is the secret of the control; for it is possible to stop development at any stage, and a little judgment is needed to know how far development should be carried. It is safe to let it go on until all but the highest lights are blackened over at the back.

A quick rinse and a plunge into the ordin-

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ary hypo fixing bath finishes the operation, except for the necessary washing after fixation.

In the hypo the white portion of the image is dissolved away, leaving the deposit by that much thinner. It is not wise to attempt too great a reduction in one operation; but, if it should happen, by misjudgment of the extent to which development has proceeded, that the reduction is too great, it is easily remedied by mercuric intensification. Whereas, if the reduction is not sufficient, the process may be repeated immediately the negative has been safely washed free from hypo.

Another important point may be mentioned. As it is the portion of film nearest the glass which is dissolved out, it is evident that we have here a valuable remedy for halation. That halation can be entirely removed is not always to be expected; but careful treatment will greatly mitigate the defect, as I have found by trial. Ammonium persulphate and the other direct reducers are rather worse than useless here, for they attack the surface of the deposit, where the halation is not present, whereas this method attacks the glass side of the film, *i. e.*, the part where the halation actually exists.

Since there is a slight intensification of the shadows combined with great latitude in the reduction of the high lights the process might almost be called "equalisation." Anyway, it is most useful and worthy of trial by all brother plate-spoilers.—P. H. Palmer in *Photography*.

Permanence of Pigments

In the early part of last January Sir William Abney read a paper before the Royal Society of Arts on the above subject. I append a few extracts:

"There is always moisture in the atmosphere, so that if a pigment is exposed to light under ordinary atmospheric conditions it is liable to fade; if it will fade at all the fading will show itself eventually. In our experiments the light employed was sunlight and skylight. The pigments exposed had various depths of color, No. 1 being the lightest and No. 8 the darkest. Half of the paper washed with the varying shades of color was covered up with black paper, and the light had free access to the other half. The papers were exposed in glass tubes bent over at one end to form a hook. There was a perpetual change of air in the tubes.

"The annexed table, in which each color is followed by its composition according to Winsor and Newton, shows the pigments which were exposed to light in these tubes, and the results of the exposure. The last thirteen showed no signs of fading. The first thirteen are really unstable, and the whole list is placed approximately in the order of instability. The next thirteen are much less unstable:

Carmine: Lake prepared from cochineal.
Crimson lake: Lake prepared from cochineal.
Purple madder: Lake from madder root.
Scarlet lake: Vermilion and crimson lake.
Payne's grey: Indigo crimson and carbon black.
Naples yellow: Mixture of zinc white and cadmium yellow.
Olive green: Quercitron lake, bone brown and ultramarine.
Indigo: Extract from the indigo plant.
Brown madder: Lake from madder root.
Gamboge: A preparation from gum resin.
Vandyke brown: Native earth for painting.
Brown pink: Lake from quercitron bark.
Indian yellow: "Purree" from India.

Cadmium yellow: Sulphide of cadmium.
Leitches blue: Prussian blue and cobalt.
Violet carmine: Lake from root of anchusa.
Purple carmine: Lake from root of tinctoria.
Sepia: From the cuttlefish bags.
Aureolin: Double nitrate of cobalt and potassium.
Rose madder: A lake from the madder root.
Permanent blue: A pale variety of French ultramarine.
Antwerp blue: Prussian blue and alumina.
Madder lake: Same as rose madder.
Vermilion: Mercuric sulphide.
Emerald green: Aceto-arsenate of copper.
Burnt umber: Calcined raw umber.

Yellow ochre: Native earth.
Indian red: A variety of iron oxide.
Venetian red: Artificial sesqui-oxide of iron.
Burnt sienna: Calcined raw sienna.
Chrome yellow: Normal chromate of lead.
Lemon yellow: Chromate of barium.
Raw sienna: Native earth.
Terra verte: Native earth.
Chromium oxide: Chromium sesquioxide.
Prussian blue: Ferro-cyanide of iron.
Cobalt: Alumina tintured with cobalt oxide.
French blue: Artificial ultramarine.
Ultramarine ash: Extract of lapis lazuli.

"Looking at the composition of the last thir-

A PHOTOGRAPHIC DIGEST

teen permanent colors we cannot fail to notice that they are all native earths or oxides of metals, with one or two exceptions. In fact, all have a mineral basis, whilst the remainder of the list which have the most tendency to fade are mostly organic derivatives.

"It must be recollected that the light used in obtaining these results was of the most intense nature, and not that to which ordinary water-color paintings would be exposed.

"The second thirteen colors are probably colors which would not fade in any ordinary light. It must, however, be remarked that when mixtures of colors are employed those colors which are more or less fugitive have a greater tendency to fade than when tested alone. For instance, in a mixture of indigo and Indian red the indigo fades more easily than the indigo does when unmixed. Having studied the theory of colors for many years, I endeavored to get a gaumet which would be sufficient in its range and as permanent as possible. My color-box consists of:

Vermilion.	French blue.
Light red.	Antwerp blue.
Rose madder.	Cyanin blue.
—	Violet cobalt.
Aureolin.	—
Yellow ochre.	An imitation and
Raw sienna.	permanent van-
Cadmium yellow.	dyke brown.
Madder yellow.	An imitation and
Lemon yellow.	quasi-permanent
—	brown madder.
Emerald green.	Turner's brown.
Viridian.	Burnt sienna.
Hooker's green,	Neutral tint, from
a new mixture.	my own form-
Sunny green.	ula.
Cobalt.	Ivory black.

"All these colors are either in the list of the thirteen permanent colors, or come near them in the next thirteen. None of the colors is in the first thirteen, which, as already said, I class as fugitive colors."

How To Make Blisters Invisible

A print which is defaced by a blister may often be cured, at least to a great extent, if the remedy is applied to it in time.

As the weight of water in a big blister will tend to increase its size, it is best, as soon as the blister is noticed, to raise the print very carefully, and prick a hole with a fine needle through the paper into the blister. If the

print is laid on blotting paper, the blister will at once go down. The gelatine, however, has been stretched by the water, and unless something is done to make it shrink, it will not go back to its original size, and may lie on the paper in puckers or folds. The best method of causing it to shrink is to wait until it is surface dry, and then to paint the blister itself with the strongest alcohol available. Absolute alcohol is best, but methylated spirit is better than nothing. After two or three applications the print may be left to dry. If the washing was not complete it may then be resumed without much fear of the blister appearing again.

Blisters sometimes dry down and do not show in the finished print except as a slight glistening of the surface. This can be concealed by re-wetting the print, squeezeing it down on to finely ground glass and letting it dry. When stripped off it will have an even matt surface in which no blisters are likely to be noticed.—C. W. Blight in *Photography*.

The Covering Power of Lenses

The term "covering power" is often used in a vague fashion, and it is always necessary to define in what sense the lens is supposed to "cover" a given size of plate, or angle of view. Speaking generally, we may divide covering power into two types, one denoting the action of the lens as regards definition and requiring delicate tests for the correction of aberrations, and the other simply denoting the action of the lens as regards illumination of the plate and requiring only simple physical measurements. The second is the sense in which we are considering the matter here, and there is a point in connection with this side of the question that is not generally appreciated. If we look through a lens obliquely we find that at one particular angle the circular stop aperture just begins to be cut by the lens mount. This gives us the limit of the area that the lens will cover with "full illumination," which area is very small with some lenses. If we increase the tilt of the lens until half the aperture is obscured by the mount, we arrive at the limits of the area of "semi-illumination," which is the extreme area on which we may expect to find usefully uniform light effect on the plate. If we expose on a white surface, giving only the briefest possible exposure, we shall get a fairly uniform patch, representing a little more than the area of full illumina-

tion, but the light will distinctly fall off towards the limits of semi-illumination. A longer exposure will tend to equalize matters, for where the light has acted most the plate is less sensitive, and the less exposed margins will tend to catch up with the center as regards density, wherefore an exposure of ordinary duration on an ordinary subject will not show much signs of falling off. A very brief "high-speed" exposure will, however, show a marked falling off, whence it follows that lenses covering very small angles, or areas, with full illumination are not suited to high-speed work unless we use a plate of relatively small size that covers within the area. On the other hand, such a lens may serve quite well for portraiture or landscape work where a full exposure can be given. Long-focus lenses often appear more rapid than they were expected to simply because the narrow angle they include on the plate falls within the angle of full illumination. If the image fell outside this angle, double the exposure would be necessary to give equally good results.—*British Journal of Photography*.

The Concentrated Filament Lamp and Panchromatics

I have long used panchromatic plates in portraiture and particularly for recording skin diseases and other pathological conditions in my practice. With the introduction of the concentrated filament, gas filled, tungsten lamp, I have found a wonderful facilitation in my work. Using a 300 watt lamp with a white reflector I am able to obtain excellent pictures of face or body by a two-second exposure. Some months ago Dr. Kenneth Mees, discussing a paper on this subject, said:

"It is not true that orthochromatic or panchromatic plates are much slower in their total sensitiveness than non-color sensitive plates, but even with the best panchromatic plates an increase of exposure of about three and a half times is necessary for daylight with the lightest filter which will give correct rendering, and this increasing exposure has greatly militated against the application of the plate to portraiture.

"When we turn to the employment of artificial light-sources, however, we are faced with quite different conditions. Artificial light-sources are so rich in red and green rays that only a very light filter, if, indeed, a filter at

all, is required for the use of panchromatic plates, while the multiplying factor of this filter is reduced by the excess of red and green in the light-source, so that a panchromatic plate, with such a source of light as the nitrogen tungsten lamp, requires less exposure than the corresponding plate unsensitized, while, of course, the color rendering is quite satisfactory.

"With the introduction of this lamp photographers all over the world commenced experiments which were marked with great success, and there is no doubt that the nitrogen tungsten lamp is destined to be one of the chief illuminants for studio portraiture in the future, and, indeed, I personally am inclined to think that studios lighted in this manner will to some extent displace daylight studios. With the introduction of this illuminant the possibility of obtaining correct color rendering in color portraiture is very greatly increased, and although at first the tungsten lamps would be used with ordinary plates, the use of panchromatic plates will undoubtedly grow, and we may expect, consequently, that indirectly the tungsten lamp will aid in the production of more correct portraiture, giving a more faithful rendering of the skin texture than has been possible in the past."

White Backgrounds In Copying

When one has some subject to copy, such as a vase, ornamental clock, or similar article, it is a great saving of time to be able to obtain full density of the ground, so as to avoid subsequent blocking out. A plan which I have adopted a good deal with very satisfactory results is as follows: For the foreground, upon which the object is stood, I use clean white blotting paper, which photographs as dense in the negative as anything which I have been able to find. Usually it photographs of quite sufficient density to yield a clear white in the print when the negative is of about the right contrast as regards the subject itself. The trouble most usually is with the background, which has to be put some distance behind the subject in order to avoid shadows upon it, which quite spoil the appearance of the result. Very often the background itself cannot be lighted so strongly as one could wish, therefore what I do is to give it a little extra illumination with magnesium ribbon, burning the ribbon within a pair of shields, one on either side of the subject, so that no direct light reaches the

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lens. There is no great inconvenience in doing this, because as a general rule the lens has to be stopped down to a comparatively small aperture, in order to get sufficient depth of focus; also I prefer to use a plate of landscape speed for this class of work. Thus, with an exposure which is usually more than a minute, it is an easy matter to light a couple of short strands of magnesium ribbon, each hung within its shield, by means of a small spirit lamp, which is the best thing I know for igniting the magnesium quickly. An alternative plan which I have used at times, although it is not one which is so generally advisable, is to use a semi-transparent background, such as thin calico, and to illuminate that in the same way, but from behind. In this case, also, it is necessary to take care that the burning magnesium does not come within the field of the lens, otherwise the result (in the background) will be altogether uneven and unsatisfactory. Usually the system of burning the magnesium in front of the background is the only one which can be adopted.—Gerald Thompson in *British Journal of Photography*.

A Pinhole Stop In The Lens

J. R. Broughton-Milne, writing in *Photography* on "A Pinhole Stop in the Lens," says:

"A pinhole itself does not give a perfectly sharp picture, although sharp enough for many purposes; but if a stop no larger than a pinhole is used in a lens, then the picture will be critically sharp all over, and at the same time the exposure required will be as long as if the pinhole were being used by itself. Ordinarily the photographer wishes to make his exposures as short as possible, but there are occasions when he requires just the opposite. For instance, if he has to photograph a shop front in a busy street he will find the traffic very troublesome. If he goes in the early summer morning all the other shops in the view will be shut, and the place will look dead. But if he uses a pinhole stop and a slow plate he may easily prolong the exposure to half an hour or more, and in that time all the moving traffic will have become quite invisible. A similar result can be got by using a color screen with a plate that is not orthochromatic; a 'five times' screen may then prolong the exposure two or three thousand times, and so give what is required."—*Photography*.

The pinhole stop is alright and I have used it often to get universal focus, but let no

one trust to the "two thousand times" prolonging screen. The statement is based on faulty theory and does not always work in practice to even ten times. At the Panama-Pacific Exposition there are many occasions where an exposure of three minutes would give its fine architecture free from the incongruity of inartistically and vulgarly dressed mortals.

Art and Photography

The great objection to the claims of photography is based on the fact that the camera is a "machine," by which is meant that it produces an automatic or uncontrolled product. The essence of a machine is that it shall substitute mechanism for human control, and the more completely this is done the more perfect the machine. A hundred machine-made products should be identical, subject only to any imperfections or wear in the machine; the man who supplied it with material, or oiled it, or turned on the steam, should count for nothing as far as the character of the manufactured object is concerned. It must be admitted that painters are not alone in their view of the photograph as machine-made; it permeates the entire non-photographic public. As soon as they see a fine photograph they say at once, "You must have a fine camera," or perhaps they have smattering enough to think that it is the lens which is so perfect. The belief persists until the holder of it buys a camera. He takes great care to enquire whether the one he is going to buy will "do good work," and then when he gets it he finds the bottom knocked out of his belief in a moment.

The camera he has bought may be able to "do good work," but the good work is not forthcoming; and so he learns, even in the very earliest stages, and when he has no particular artistic aspirations, that after all it is the photographer and not the camera that takes photographs. As he proceeds he finds more and more how unimportant relatively is his instrumental equipment, how all important are his training, knowledge, and taste. Until at last, when he wanders round an exhibition, he realizes how absurd it is to try and pick out the photographs taken by a Kodak or a Carbine or a Klito, how easy to recognize a Coburn or an Inston or a Furley Lewis. He may not stop to think of it, but he has answered the "machine" objection in a complete and crushing manner.—*Photography*.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Shutter Speeds Not Uniform

A correspondent in Illinois has sent me two prints from which appear to be two negatives, one having about twice the exposure of the other. In addition, the one appearing to have the largest exposure was evidently made with a larger stop as the depth of focus is much less. The correspondent explains that the first was made by giving the scene one twenty-fifth of a second at f-8 while the other was made by giving four such exposures at f-16, the required time being four times greater than for the first, according to the books. The only way he could account for this discrepancy in the results is by assuming that the shutter varied in its speed for some of the exposures. In this he is mistaken. The shutter, being one of the diaphragm form, consumed a given length of time in opening to its full diameter and then closing. With a large stop the plate is being exposed during practically the entire time; while, with the smaller stop, part of the total time is lost by the travel of the shutter after it reaches the outer edge of the stop and before it comes to its own full opening, and again in moving from its full opening to the smaller one of the stop, in closing. Consequently, four of these periods with a small stop in front of the shutter does not give the same time of plate illumination as does one period with a stop large enough to accommodate practically the full opening of the shutter. Of course, this applies particularly to shutters of the diaphragm style that open from the center of the lens to the full diameter and then closing again to the center.

Improving Chalky Prints

One of our amateur friends tried to reduce a negative the other day and spoiled it utterly by forgetting to watch it while in the tray. Before he was aware of what was going on he had lost all of the little detail

it contained and a good part of the dense portions. The truth of the matter is, it was not such a negative as could be improved very much by that process. The only print he had was one that was exceedingly chalky, and yet he wished to have that particular scene form part of a collection he was preserving in album form. At our suggestion the print was given a good soaking in a strong solution of ordinary coffee until the paper was stained quite brown. Then the print was mounted on one of the darkest pages of the album, the latter a home-made one having leaves of various degrees of darkness. The result of this treatment was a print that seemed perfectly satisfactory, in fact, such treatment would have been effective only with a print of this particular kind.

Divided Development

G. F. Green, proprietor of the Brewster Art Studio, Brewster, Washington, has been trying divided development, that is, the plan of alternating the plate between the developer proper and the alkali solution, as recommended and discussed in "A Photographic Digest." He is much pleased with the results but would like to get further information on the subject through others who have employed this method of developing. Any of our readers who employ development of this kind in their own practice will be favoring Mr. Green by writing him as to the developer used, the plan followed and the degree of satisfaction secured.

Trying Out the New Camera

It has been our unpleasant duty to inspect the first results secured by amateurs from various parts of the country who have bought a new and better camera just before coming here for the Exposition. Almost invariably the worker who follows this plan rather than the one of bringing the camera with which he is quite familiar, comes to grief. He may

THE AMATEUR AND HIS TROUBLES

know exactly how the new instrument works, what has to be done and how to do it, but he fails just the same. The camera is manipulated all right, he is too good a photographer for that, but the subject itself does not get the proper thought and attention. The camera demands entirely too much. Photography of the kind that one does on a visit to a great Exposition, requires thought and attention in the matter of view point, lighting, the arrangement of the moving figures in the foreground and a few other things. This cannot be given if one's mind is so fully occupied with the various manipulations of a new camera. One may use an old camera that has previously served him well and find that he uses it unconsciously, much as one uses a knife and fork. Doing this, all attention can be given to the matter of selecting and arranging the best possible compositions. One should, if a new camera is thought necessary, take it out and use it for a day or two before starting in to do serious work, particularly where all is new and unfamiliar as must be the case at our Exposition.

Exposures For Interiors

We have a friend who uses a small hand camera with a varying degree of success that does not seem to trouble him to any great extent. With him the making of pictures is a matter of no great moment, just so he secures a fairly good average. Recently he discovered that in making his interiors his average of printable negatives was extremely low. Coming to me for advice he demanded that I leave out any talk about exposure meters, testing the light, and the like. The best I could do was to suggest that he make his fourth stop, about f-32 as near as I could judge, his standard, and give them all five minutes by his watch. A tripod he would not bother with so I told him to slide a table around until it came where he wanted the camera to rest, throw a black cloth like a coat or jacket over the front of the camera, reach under and open the shutter, then remove the covering without shaking the instrument, and again cover it and close the shutter at the expiration of five minutes. This because he had been shaking the camera and getting doubles in well lighted portions. On top of this he was advised to skip all interiors too brilliantly lighted, as when sun-

light streamed in, or else draw shades to keep out the strongest light. Also, to withhold his film when the interior was somewhat below the average in illumination or else double the time. Seeing him the other day he reported that every interior made as suggested had been a great success; and, to prove it, showed us a number of prints that really verified his statement. We really do not think much of the advice and would prefer to see him use an exposure meter or something of the kind, but the fact remains that he gets a high average of good results and others may wish to try the plan.

Flashlight Powders

Recently we have had a large number of requests for a formula for flashlight powder and several have enquired as to the method of compounding one using aluminum instead of the magnesium now becoming rather high priced. Pure aluminum bronze powder, that contains no copper, when mixed with potassium chlorate, makes a flashlight powder that is quite serviceable, although dangerous both in mixing and use. The potassium chlorate absorbs moisture readily and thereby becomes dangerous in use, the tendency of powder containing it in the damp form being to smoulder and unexpectedly go off just when one thinks it has failed to ignite. Two parts of the aluminum powder are to be mixed with finely powdered and perfectly dry potassium chlorate. The resultant powder must never be used in a confined receptacle or blown through a flame but is to be fired by applying the lighting spark or flame to the unconfined powder. Mixing should be done carefully to avoid any friction, a large feather used on a sheet of paper being the best means of doing this. Adding antimony sulphide gives more rapid flashes, the proportions being three, five and fifteen parts respectively of the antimony, aluminum and potassium chlorate. We must again caution our readers that it is much more the part of wisdom to purchase such flash powder as they may require, even should the price become extremely high. We really would prefer to continue our past policy of not giving even the encouragement of a formula, but so many enquiries have come in that the above is submitted with its attending caution as to the danger involved.

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CLUB NEWS AND NOTES

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3742—S. H. Nichols, 616 Front St., Hayward,
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(Was San Francisco, Cal.)

4080—A. T. Moss, 930 Green St., San Francisco,
Cal.

(Was Hyampom, Cal.)

WITHDRAWAL

2858—H. M. Sutton, P. O. Box 1223, Dallas,
Texas.

Lack of time.



CLUB NEWS AND NOTES

The Berkshire Photographic Society

Thirty-two members and friends of the Berkshire Photographic Society held an exhibition, listened to excellent speakers, awarded prizes, and did full justice to a choice menu at their second annual banquet at the Hotel Wendell, Pittsfield, Massachusetts, on the evening of Friday, May twenty-first. Doctor Arnold Genthe took for his subject, "What Photography Can Learn From Japanese Art," Walter Prichard Eaton lectured on "Opportunities in the

Berkshires," and "The Berkshire Photographic Society" received attention from Edward Hale Lincoln. About fifty excellent pictures were hung and prizes awarded for the best two in each of four classes, namely, Berkshire landscape, winter scenes, flower studies, genre subjects, and interior views, Mr. Lincoln acting as judge. E. M. Lincoln has been re-elected honorary president while Frederick D. Burt, of Pittsfield has been elected president. George Revilo Carter, founder and first president of the society, would not consider a re-election.



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This is the latest addition to that series of exceptional travel books so favorably known as the "Spell Series." Its author, Edward Neville Vose has admirably succeeded in giving us an intimate and accurate knowledge of what is perhaps the most interesting corner of Europe, that territory embraced in Flanders of the past when Ypres was several times larger than London and the power of the Courts of Flanders waxed and waned. Not only has he shown us this interesting country as would an enthusiastic traveling companion who had himself ab-

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NOTES AND COMMENT

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In it will be found much that is new and of interest**

Reported by William Wolff

The writer is on his way, a rather round-about one, to the National Convention; and, local news is for the time out of the question.

George Mackness of Burke & James kindly offered to take me around Chicago in his machine. There was only a quart of gasoline in the tank so we did not get very far. Mr. Mirgford of the same firm, says that is an old trick of his. Is that so, George?

Shook hands with the entire bunch at Taprell, Loomis & Company's from the genial W. A. down to Fred Seyler.

Found W. A. Taylor, who was with Hirsch & Kaiser following the fire, helping things along for Fowler & Slater of Cleveland. Had the pleasure of meeting his charming little wife.

Probus Paint and Probus Print Luster is in great demand all through the East.

Mr. Jackson of Jackson & Semmelmeier, Chicago, expects to visit the Exposition a little later.

Mr. Moody, the Chicago representative of the G. Cramer Dry Plate Company, was found quite cheerful and optimistic.

Mr. Frey, in charge of the Chicago branch of the California Card Manufacturing Company, reports business very good in his particular territory.

An Excellent Utility

The photographer, both amateur and professional, finds many uses for a serviceable white water color, but too often he has suffered the disappointment of trying to use an ink or color that did not meet with his requirements, and for that reason does not use something of the kind except when forced to do so. This inconvenience need no longer be suffered if he will but supply himself with a jar of "Snow White," the new water color paint being marketed by J. W. Johnston, Rochester, New York. This preparation has the double merit of being absolutely white,

and working perfectly. Its chief merit lies in the fact that it "covers" perfectly with one stroke of the brush or pen, while it is of such a consistency that it flows readily from either of these tools or from the color cup of the air brush. It dries quickly, dries opaque, and will not rub off or powder. For titling photographs, either directly thereon or on the pages of albums or mounts, it is excellent, as it neither runs on a smooth surface nor spreads on that of an absorbent material, if the simple instructions are followed. While, of course, it is neither manufactured nor recommended for whitewashing walls or fences, it has numerous uses that will suggest themselves to the photographer, and we might add that the same excellent product can be obtained in grey, pink, lavender, Alice blue or Nile green tints. It has only been on the market for a few weeks, and, therefore, may not be obtainable from all dealers, but intended purchasers are requested to try and secure it from their dealers before ordering direct.

The Exposition Illumination

It will no doubt interest our readers to learn that the search lights, mirrors and colored disks used in the wonderful illumination at the Panama Pacific International Exposition were made by a firm well and favorably known by all our readers, the Bausch & Lomb Optical Company of Rochester, New York. The order by the Exposition people with this firm called for four hundred and fifty twelve inch spherical mirrors, two hundred eighteen inch and twenty-five thirty inch parabolic ones and forty-eight of the thirty-six inch size, the total value of these being nearly fifty thousand dollars. In addition, the firm supplied three hundred and twenty-five cylindrical diverging glass fronts for use in the search lights and other equipment that make possible the striking illumination that is such an impressive feature of the Exposition. The visitor to the Exposition

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may see all this equipment in operation. At the entrance of the yacht harbor is a battery of search lights called the scintillator, which reproduces the Aurora Borealis, a procession of colored lights extending across the sky almost from horizon to horizon, illuminating it for miles in every direction. This battery has a combined total of two billion, six hundred million candle power. Alcatraz Island and the Marin hills are illuminated by a battery of search lights exceeding in numbers the total possessed by the United States Army and Navy. We might add that the exhibit of the Bausch & Lomb Optical Company in the Palace of Liberal Arts is one that the visitor should not fail to seek on account of its wide scope and absorbing interest to even the layman, but particularly so to the photographer or the one interested in any form of optical goods.

Photographs Burned In China

One of the new advertisements in this magazine is that of F. J. H. Abendroth of Kansas City, Missouri, who has for many years devoted his attention to the burning in of photographs on china. Such pictures are imperishable and in connection with the line of high grade imported china which he uses, makes handsome gifts of articles of decoration and utility that will be treasured for years by the grateful recipient. Mr. Abendroth can reproduce these pictures from any kind of copy, can enlarge or reduce the pictures sent him and the finished picture can be burned in on the china either plain or in colors as one may desire. He is sending out a handsome catalogue and we would advise all our readers to get in touch with him and order a few samples of his work. His prices will be found very reasonable and some of his work that we have seen is exceptionally fine and calculated to please the most exacting.

Those Hathaway Portraits

In mentioning, as we did last month, the exceptional high quality and artistic merit of the work on exhibition in the Sprague-Hathaway booth in the Photographic Section of the Palace of Liberal Arts at the Exposition, we unintentionally failed to call attention to two branches of the firm's business in which particular pride is taken, namely, water colors and portraits in oil. The examples of

high grade portraiture in these mediums that are on display are most convincing evidence of the capabilities of this old and progressive firm and we do not wonder at the success that they have achieved. Every photographer who visits the Exposition should make it a point to give this remarkable exhibit the study that it merits and those who do not find their way to San Francisco should get in touch with the firm, addressing, Sprague-Hathaway Company, West Somerville, Massachusetts.

Gold Medal For Assur Colors

Schering & Glatz advise that they are in receipt of a telegram from their representative in which he says that the Jury of Award of the Panama Pacific International Exposition have awarded a gold medal to Assur Colors. These colors are being demonstrated at the Exposition by Max Voetter, a representative of the firm, and he is also in charge of a large and highly interesting exhibit of photographs colored by means of this simple and effective process.

A Meritorious Invention

The Curry Amateur Hand Printer is a new invention that makes the production of prints with white margins a very simple matter of but four motions. The ordinary troublesome method of making the white margin even all around by trimming the finished print is entirely eliminated. Hirsch & Kaiser of this city stock them and if your own particular dealer cannot show you one, write directly to Frank J. Curry, 812 Chestnut Street, Philadelphia, asking for descriptive circular. It is well worth your while.

Two Instructive Booklets

"Cyko Prints" comes to us in the form of a new edition of this most helpful and informative manual. Its pages are devoted to such subjects as: The Selection of the Light, Table of Comparative Exposures, Printing, Developing, Fixing, Washing, Double Printing, Tinted Borders, Dodging, Enlarging, Printing from Wet Negatives, Vignetting, and many others. "Ansco Film" is also a new edition, a booklet devoted to the proper method of using the popular Ansco Film. Particularly helpful is the chapter dealing with the making of time exposures such as interiors require. A very

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full and comprehensive table is given by which the worker should be able to estimate correctly the time required for any interior requiring an exposure varying from four seconds to five minutes and twenty seconds, the latter being the time required for a room having dark walls and hangings and only one window, with cloudy weather outside. Copies of both of these booklets will be gladly supplied by any Ansco dealers or directly by the Ansco Company, Binghamton, New York.

An Attractive Sign

We recently received from the Cooper Hewitt Electric Company, Eighth and Grand Streets, Hoboken, New Jersey, a copy of their Bulletin No. 59, describing electric signs, although the signs pictured and described are an improvement over the ordinary illuminated sign that is attractive only at night, for the reason that by this plan the sign is effective by day as well as night. Description is given of the proper installation, which is inexpensive and consists of the required number of white painted letters arranged along the tops of the buildings, where they are attractive by day and can be made doubly so by illumination of a pea green color obtained from Cooper Hewitt lamps placed behind a reflector located in a ledge below and in front. While this circular describes some very large and elaborate signs, it is obvious that the photographer who wants to put up a sign a little different from his neighbor's need not go to the expense of erecting an enormous one requiring a lot of lamps, but can easily arrange a small sign using only a single lamp and yet one that would be particularly effective as a novelty, should it happen to be the first in his town.

Victor Flash Powder

The season for flash work is upon us, and we can hardly conceive of a photographic business that cannot be made more profitable and more extensive in its scope by the use of a reliable flash powder for the making of no small proportion of the negatives produced. For example, one is often called upon to make exposures where the light is rather weak or lacking in uniformity of distribution, and a small flash used in connection with the daylight available, will invariably give a more pleasing result by correcting the unnaturally heavy shadows or the unequal il-

lumination. This is a point that photographers seem to overlook through a mistaken idea that the flashlight is to be used only at such times as there is no other light available. Of course, it is much more convenient and satisfactory to use a flash powder having the highest possible actinic quality with as little inclination to produce smoke and concussion as possible, and these good qualities are combined in a high degree in the well-known Victor Flash Powder carried by all dealers, and manufactured by James H. Smith and Sons Company, 3541 Cottage Grove Avenue, Chicago.

"Who Won"

The above is the title of a handsome little booklet containing reproductions of the pictures winning the first five prizes in the Ansco Company's Loveliest Women Contest recently closed, together with a list of the other thirty-four prize winners. Copies will be sent to those asking until the supply is exhausted, we believe, and our readers will do well to put in a request, addressing it, Ansco Company, Binghamton, New York.

"Enlarging With Condensers"

The increased use of small cameras has created so much interest in enlarging that the Bausch & Lomb Optical Company have put out a special circular entitled "Enlarging with Condensers." The circular shows the way an enlarging apparatus should be set up, and gives instructions as to the adjustment of light, the lens to use for enlarging and information regarding the improved mountings for the photographic sizes of condensers. Circulars will be mailed on request to anyone who is interested. Address Bausch & Lomb Optical Company, 624 St. Paul Street, Rochester, New York.

A Successful Paper Developer

A combination that is meeting with great success is Velvosol developer and Clearo Compound. These products combined make an excellent developer for all makes of developing papers and is particularly for glossy or velvet surface ones, as it does entirely away with abrasion or friction marks. The makers advise that it is being used extensively by Kodak finishing departments throughout the country, owing to its great keeping qualities and its simplicity of preparation. The Mission Photo Supply Company, 3090 Sixteenth Street, San Fran-

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cisco, are sole agents for the United States and can supply literature. The Honolulu Photo Supply Company, of Honolulu, have been appointed sole agents for the territory of Hawaii.

An Interesting Card

Some time ago a neat little card reached our desk, and as it seemed to have considerable interest and originality, permission to republish it was asked. It reads as follows:

"AN IDEA OF SERVICE"

To render to the Kodaker that little touch of personal advice so often lacking in the Kodak store.

To give freely and friendly all the details of the Kodak process—those little secrets that are hoarded up and guarded by the Photographer and Dealer.

To build a permanent and growing business that will remain always in the stage of evolution, winning confidence by meriting it.

This is Grow's aim. His dark-room is always open to you. The secrets of the dark-room are unlocked to the Kodaker, and the knowledge of making better pictures is freely given.

And so is established a place, long needed, where the amateur can call, phone or write, "How shall I make this picture?" and receive a careful, courteous reply.

WM. J. GROW, The Photo-Chemist.
Phone Broadway 8280.

Pantages Bldg., Los Angeles.

In his reply to our request, Mr. Grow said that he was pleased to know that the card had our approval and went on to say that we might use it in any way desired, and should it prove helpful to any other dealer, he would feel that it had more truly accomplished a part of the mission for which it was produced, adding that the card has brought him many friends and customers, who had returned again and again because of his efforts to fulfil the promise made thereon. It is obvious that this last is the key to the situation, although the card itself is none the less a commendable piece of advertising.

A New Ilex Catalogue

We are just in receipt of a copy of the handsome little catalogue just gotten out by the Ilex Optical Company, of Rochester, New York. It gives full information concerning the excellent line of shutters and lenses manufactured by this firm; and, in addition, there are many reproductions of most interesting examples of photographic work. Our readers should send for a copy, as it will prove particularly interesting at this time with the photographic season about to open for good throughout the country, and one naturally wishes to know concern-

ing the new goods offered. It is sent gladly upon request by the firm from its office in Rochester.

Kodak Velvet Green

A little touch of realism that will be added to your vacation pictures if printed on Kodak Velvet Green will increase their value to you many, many times. Kodak Velvet Green gives just the right tint to marine pictures, in fact, it may be used to advantage in all outdoor views. It works the same as Velox except that it prints by daylight. It is sold by your dealer in all sizes and weights.

A New Fast Plate

Among new and interesting importations announced by Allison & Hadaway, 235 Fifth Avenue, New York, is the A. & H. brand of Marion & Company's latest plate, said to be the fastest yet produced. It is claimed that practically every difficulty has been removed, that the plates possess splendid latitude in exposure, are free from fog and have excellent keeping qualities. The speed is registered as being 500 H. & D.

Samples of these plates and also the Marion "P. S.," a new professional plate giving especially good results when white draperies are to be photographed, will be sent to newspaper and professional photographers making the request on their own letter heads.

The Work of Edward Whiting

A recent number of the New Haven *Saturday Chronicle* contained the following, inspired by the fine color work of Edwin P. Whiting, of that city, one of our advertisers:

"The most popular and successful processes of photography in color make use of a fine-grained screen containing the three primary colors. This screen is the crux of the present-day photography in color. It is composed either of minute squares of transparent gelatine stained the three primary colors, red, green and violet, arranged in a regular pattern, as in the Paget and Dufay plates, or of a layer of very fine starch grains in the same three colors scattered over the plate in the Lumière Autochrome. In either case, these fine dots of color, which are never larger than one hundred and seventy-five to the inch, combine in the eye to form white. The picture is taken through this screen, which is placed in juxtaposition to and in

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front of a specially color-sensitized emulsion.

"The resultant picture is viewed through one of these screens, whence it derives its color. In the Autochrome and Dufay plates, the screen and sensitive emulsion are on the same plate. Therefore, the picture has to be chemically reversed, and the taking screen answers for a viewing screen. The Paget process employs a screen on a separate glass plate, with the result that the negative need not be chemically reversed. As many positives as desired may be made, each bound up in register with a separate viewing screen. The grain of the screen is not noticeable unless the picture be held very close to the eye.

"The how and the why of the miraculous effect by which the screen produces the colors is best explained by an analysis of what takes place with regard to some one color in the picture. Suppose we put our minds on red; be it a school house, a coat or a cow! The red image in the camera must pass through the color screen before reaching the plate. The red light passes freely through the red squares or dots, but is so absorbed or destroyed by the violet or green squares as not to pass through them. The red object is thus represented on the negative by a series of black squares corresponding to the red squares of the screen. If we reverse this negative or print a positive from it, we obtain a series of transparent dots over the red squares of the screen and of black dots over the green and violet squares, rendering them opaque. Thus the red object in the picture is shown by a series of red windows in a black wall. The luminosity of these windows prevents us from seeing this black wall. Here lies the apparently insuperable obstacle to color prints on paper by this process, since two-thirds of any one color in the picture on paper would always be black.

"With a careful choice of subject, the results of photography in colors are marvelous, and startlingly true to life. Properly mounted in a diascope, these pictures, more brilliant than the ordinary window transparency, but without its many disadvantages, give as true a rendering of nature as we have yet been able to get by photography. Among the many subjects suitable for photography in color, we may mention portraits, brilliantly colored landscapes, flowers, formal gardens, sunsets, vase, antiques, stained glass windows, jewels or any object in which color is the important feature."

Illinois College of Photography

A. B. Bliss, student of 1907, who is now employed in the Photographic Division of the Department of Agriculture at Washington, D. C., made the College a short visit this month.

J. P. Urell has accepted a position as manager of the Barnard Photo Studio, in Williamson, West Virginia.

Miss Alvena Wiemann, who has just graduated from the course in photography, has gone to her home in Michigan. After a vacation, she expects to go into studio portraiture for herself.

On May twenty-fourth, a large number of the students attended the dynamiting of Crooker Hill, three miles west of the city. This is the steepest hill on the Ocean to Ocean Highway, between St. Louis and Indianapolis. Besides getting sunburned, they also got some good negatives.

Maurice McGuire has taken a position with the Feller's Engraving Company, of Lima, Ohio.

Misses Flora and Fannie Chillberg, former students of the I. C. P., are engaged in home portrait work at Rock Island, Illinois, and are making a success of the business.

James Forristal's course culminated June first in his marriage to Miss Bushue, of this city. They will make their home in Salina, Kansas.

Charles H. Storms, of Manila, Philippine Islands, has been appointed to take charge of the Photographic Department of the Philippine Bureau of Education, at the Panama-Pacific Exposition. Mr. Storms was a student at the College in 1913.

J. A. Rinehart, Secretary of the Bissell Colleges the past thirteen years, has resigned to take up newspaper work. Mr. Rinehart is a very able man, and will make a success of his new vocation. The vacancy at the College is to be filled by Le Grand Flack.

Prof. A. J. Newton, for a number of years principal of the London (England) County Council School, made the College a visit last month. Professor Newton is an expert in the branches of photography and photoengraving, and expressed himself as greatly surprised at the scope of work done at the Bissell Colleges.

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SAN FRANCISCO
CALIFORNIA

What is the value of the Cyko trademark?

WE MEAN the tangible value, both to the consumer and the manufacturer. The consumer knows by experience—experience of 16 years—that when he uses CYKO he gets the best prints obtainable from his negatives, that he cannot determine the value of his negatives until he sees a print on CYKO.

His work need only be done once. He has no waste either of paper, time, or reputation.

What is the tangible value of the CYKO trademark to the consumer?

The manufacturer of Cyko has put in 16 years studying the best methods of compounding and mixing emulsions, purchasing secret formulas, buying and devising machinery, collecting data, and paying hundreds of thousands of dollars for experience.

In addition, the manufacturer has spent in 16 years hundreds of thousands of dollars showing the consumer the quality behind the trademark Cyko—demonstrating, teaching, advertising Cyko quality.

Yet Cyko is sold at about the same price as other papers.

What is the value of the Cyko trademark to the manufacturer?

A hundred dollars will be paid for the best answer.

AnSCO Company

Binghamton, N. Y.





NIGHT—HALF DOME
COURT OF FOUR SEASONS
By FRANCIS BRUGUIERE
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CRAFT

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FAYETTE J. CLUTE, Editor

CLAUS SPRECKELS BLDG.

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No. 9

Filter or Non-Filter

By Charles F. Rice



With Illustrations by the Author

EDITOR'S NOTE: Mr. Rice feels that while his lack of scientific knowledge on the subject denies him any measure of authoritativeness justifying dogmatism, he believes that, approaching the subject from the same angle as no doubt thousands of others would, and do, entitle his deductions to some consideration. He is, at least, warranted in placing the results of his experiment before his fellow workers, who, of course, may make their own deductions should they not care to accept such as he presents.

Eighteen hundred and ninety, or thereabouts, it must have been, that I first tried orthochromatic plates. I well remember that they were Carbutt's, plates which have not been on the market now for many years. I tried them on autumn foliage, sunrise and other sky and cloud subjects, saw no improvement over my results with ordinary plates, and gave them up as a bad job. I had never heard of a ray filter or color screen in those days.

Fifteen years or so later, in the meantime having practised photography in a desultory way, I again became interested in the subject of orthochromatics. Burke & James had at about that time put on the market a ray filter adjusted for Cramer's Isochromatic plates, called the "Isochrom." And the salesman whose advice I sought, being wiser than many of his calling, recommended that I try Cramer's plates, Iso plates, and use with them an "Isochrom" ray filter. I followed the advice, which proved to be good; and from that day to this I have used color-sensitive plates for most subjects that do not call for extreme speed. I have used many plates besides Cramer's, and several color screens besides the Isochrom. But a point I would emphasize is that it was not until I employed a suitable ray filter in connection with an orthochromatic plate that I was able to see any advantage.

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Platemakers, I fear, in common with other human beings, are prone to make extravagant claims for their products, and I suppose there never was an orthochromatic plate put on the market that was not claimed to be capable of rendering more or less correct color values, even when used without a filter. Amongst the ortho plates that I tried were one or two of the so-called "non-filter" varieties, for which were claimed especial virtues when used without a ray filter. I tried them that way, on landscape subjects; and, while they did seem to give better values than other ortho plates that I had used, I did nothing in the way of comparative tests.

It was a determination to find out as nearly as I could how much superior the non-filter plate was to the regular ortho that impelled me finally to make a series of comparative test exposures on various plates, with filters and without. While I was about it, I thought I would include in the tests some ordinary "color-blind" plates, and, at the other end of the list, some "red-sensitive" or panchromatic plates. So that the comparison embraced four types: color-blind plates, regular ortho plates, non-filter ortho plates, and panchromatic plates. Film that I tried was tentatively classed as regular ortho.

These tests I cannot claim were made in a scientific manner, but they were done carefully and, I believe, intelligently. The results I obtained, it seems to me, should be of interest to amateurs especially because the tests are such as any amateur might make himself, without expensive and complicated apparatus; and I trust other amateurs may be hereby encouraged to make such tests. If so, I should be pleased to hear of the results, whether they tally with mine or not.

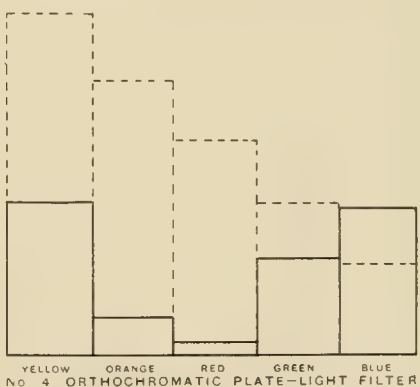
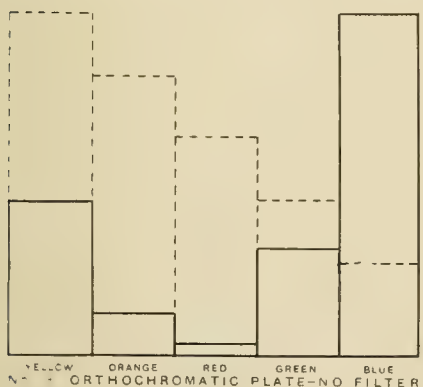
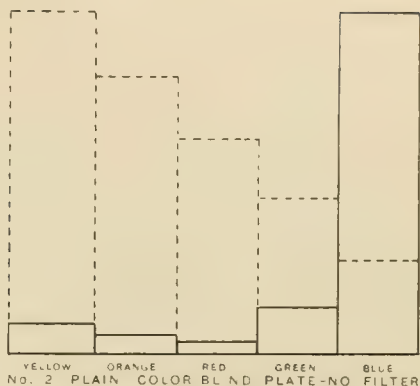
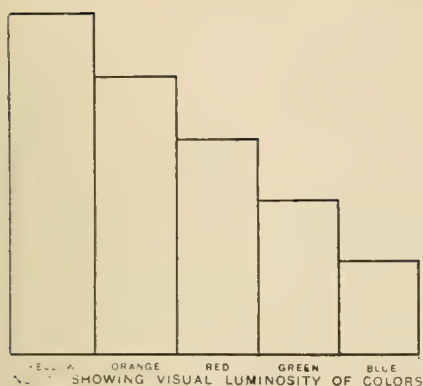
The subject employed was a color-chart published some years ago in *The Practical Photographer*. This chart showed the three primary colors: red, blue and yellow, and various combinations of them, such as orange, green, purple and brown. It may be urged that the tests should have been made with pure colors from a spectroscope. My reply is, first, that I had not the means to provide a spectroscope; second, that it is not pure spectroscopic colors that are met in the practical use of orthochromatic plates. While some objection may be made to the use of a chart, it seemed to me to answer the purpose better than any landscape or other natural object whose colors are constantly subject to change; the chart embracing also a wider range of color than is ordinarily encountered in nature.

Two filters were used: the Kodak ray screen, which is a light lemon yellow, and the Isochrom, before mentioned, which is of a deep orange-yellow.

Each plate or film was exposed, first, without any filter; second, with the Kodak ray screen; third, with the Isochrom filter. It was largely a case of trial and error, and many of the exposures had to be made over and over again; although the unscreened exposures were generally approximately right on the first trial, thanks to a Wynne exposure meter and to various published lists of plate speeds.

One of the first interesting points that I encountered in my investigations was in regard to development. It was my desire to equalize all conditions as far as possible, so as to make the results with different plates comparable with

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each other. Accordingly I found it advisable to adopt one certain developer, and to use it at a constant strength and temperature. What I found was that the duration of development to gain a certain degree of contrast varies very widely among different plates. For instance, of two different brands of color-sensitive plates from the same maker, one required nearly three times as long development as the other to gain the same degree of contrast, not of color-contrast, mind you, but contrast between the black and white portions of the test subject.

It may be generally assumed that very fast plates develop more slowly than the average; also that orthochromatic plates usually develop more quickly than plain plates. But these are only generalities; there are important exceptions. The factor system, thanks to Mr. Watkins, will allow, to a great degree, for differences in development speed; but you cannot use enough light with panchromatic plates to be safe in determining the factor. Watkins' "Thermo" system of development is designed to take care of this particular difficulty, and I have recently had sufficient experience with the Thermo plan to believe that it is, in fact, a fairly safe guide, although my own experiments do not altogether confirm the relative development speeds of different plates as set down on the Thermo schedule.

Now as to color "rendering." Just a glance at what we seek to accomplish. Take the five principal colors, yellow, orange, red, green and blue, and

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we find that their comparative brightness, as judged by the eye, is about in that order. Yellow is brightest, then orange, and so on, with blue the darkest. This relation may be graphically expressed by a diagram, in somewhat the shape of a flight of steps, the lowest step representing blue, which has the lowest luminosity; and so on up to yellow, with the highest luminosity, at the top of the stairs. See diagram No. 1.

The manner in which these colors impress themselves upon an unscreened ordinary plate, however, may be expressed approximately by the solid line steps of diagram No. 2; the dotted steps representing the visual luminosity as shown in diagram No. 1. Here it will be seen that instead of being the lowest step, blue is the highest. In fact, the steps have lost all proper relation to each other and do not appear as a "flight" at all. In this and succeeding diagrams the dotted lines show the relative height which the steps should have to correspond with the visual luminosity.

Our problem is to so equalize matters as to bring the colors or steps into their right relation, or as nearly so as possible.

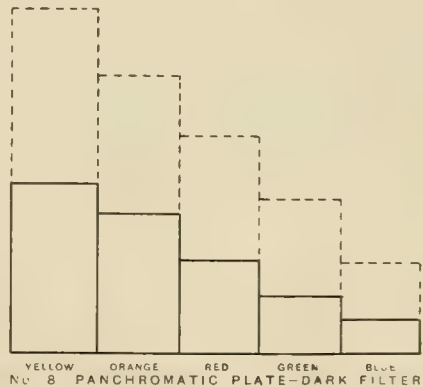
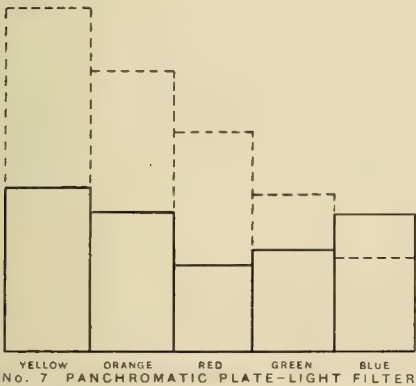
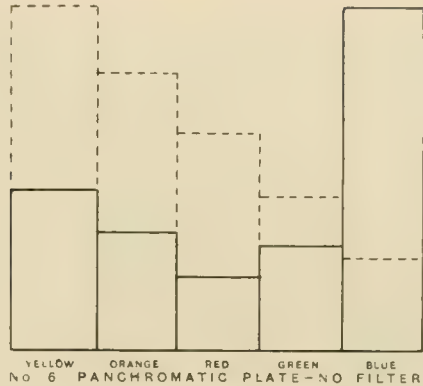
Two things need to be done to restore the staircase to its proper incline. The yellow end needs to be built up, and the blue end needs to be depressed. And we find that is actually what is accomplished by the ortho plate and the ray filter. The addition of certain dyes to the emulsion of the dry plate intensifies the sensitiveness to yellow, and also to orange, which is a mixture of yellow and red, thus lifting up the yellow and orange steps. This is shown in diagram No. 3, which indicates the color rendering given by an unscreened ortho plate.

The increased sensitiveness to yellow and its compounds is of little use, however, because the blue sensitiveness is as great as ever, so abnormally great that it overpowers the weaker colors. The ray filter is employed to filter out or screen off a part of the blue rays. Doing this it pushes down the blue end of the staircase as shown in diagram No. 4, the rendering given by an ortho plate and light ray filter. The darker or deeper yellow is the tint of the ray filter, the more is the blue step cut down, until, with an orange-yellow filter, the result shown in diagram No. 5 is obtained. This is as near as we can come to a correct color rendering with an ortho plate. It will be noted that red and orange are still too dark, the steps in the staircase representing these colors being too low.

Sensitiveness to red is provided in the panchromatic plate. Diagrams 6, 7 and 8 show approximately the rendering given by a plate that is sensitive to all colors, used without filter, with light-colored filter and with deep filter. Diagram No. 8, panchromatic plate and deep filter, is the only combination that shows all the steps in nearly proper relation to each other.

Let us look at some of these diagrams again. They are only approximate, of course. There is such a wide range of tints that go by the name of yellow, and likewise orange, and likewise the other colors, that some may be inclined to quarrel with me as to the order and height of the steps. I have tried to represent as nearly as possible the relation existing between the colors shown on my chart, with one exception, the red. There was so much blue in this so-called red that most of the plates, exposed without a filter, showed the red as lighter than yellow, and I had the puzzling phenomenon of a plain color-blind plate photo-

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graphing red as light as did a panchromatic plate. I later substituted a purer, deeper red, and the results were different.

We must not miss the significance of this, namely, that many of the reds we meet in nature are not by any means pure, unadulterated red. They may contain enough blue to "take" fairly light on an unscreened ordinary plate. Or again, the red may be so decidedly yellow that a screened ortho will render it adequately. This is true of other colors besides red, and these mixed colors are the kind we get in landscape work. Therefore, a plate and screen that are adjusted to give, in the laboratory, a most satisfactory rendering of pure prismatic colors from the spectroscope, may not necessarily give the most satisfactory rendering of the mixed colors in an autumn landscape.

Look at diagram No. 2, which is intended to represent the color-rendering of an ordinary plain or color-blind plate used without a screen. It is typical, but not absolute, for there is a great difference in plain plates in their sensitiveness to yellow and the yellow compounds. It may be accepted as a fact that even the most color-blind plate is somewhat sensitive to all colors, including red. This was brought home to me by the fact that the only plate my red dark-room light ever fogged noticeably was a Lumiere Sigma, which lays no pretension at all to being orthochromatic, saying nothing about being red-sensitive. It happened in the minute or so while I was loading the plates into the rack of an Eastman developing tank, and I carelessly allowed the light from the red lamp

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to shine on the back of this, an outside plate. Fast orthochromatic plates treated in the same manner showed no trace of fog.

I think my tests justify the assertion that there is no hard and fast line between plain and ortho plates, for some of the supposedly color-blind varieties have at least as high yellow-sensitiveness as some that are classed as orthochromatic; for instance, a very fast plain plate and a supposedly orthochromatic film, both by the same maker. Of these, the plain plate was much faster through both the light and dark filters, and gave at least as good color rendering under all conditions as did the orthochromatic film. On the other hand, the very fastest plain plate that I tried seemed practically insensitive to any color except blue, and even a very prolonged exposure through the dark filter, two hundred times normal to be exact, gave little better color rendering than the exposure made without any filter. Blue was still the lightest color in the resultant print.

Here I want to say something that I fear will be regarded as rank heresy by the platemakers. Many plates classed as ordinary or color-blind are, as a matter of fact, sufficiently orthochromatic to be capable of fair color rendering with a light ray filter or with prolonged exposure through a deep yellow one. The platemakers will tell you that it cannot be done; but I have done it satisfactorily more than once, not only on a test exposure of a color chart, but in an effort to get a better rendering of cloud and landscape when working in the field.

The ideal of orthochromatic photography would be a plate that, without any ray filter, would give correct color values. Referring again to the step diagrams, we see that it is not enough to elevate the yellow end of the staircase by increasing the plate's sensitiveness to yellow, because the blue step is so very much higher than the highest yellow we can get. Some means must be employed to dampen the blue-sensitiveness. That can be done with a ray filter, as we have seen. Could not the same result be accomplished in the plate itself? European platemakers have tried to do it in the "non-filter" or "anti-screen" type of ortho plate, by incorporating a yellow dye in the emulsion in such quantity that the very yellowness imparted by the dye will act as a filter and so dampen the blue.

My tests do not show that the blue is perceptibly damped or screened in the "non-filter" ortho plate. Some of this class of plates work in no way differently from the regular run of ortho plates. The best I can say for the non-filter plate is that it seems to show a greater general yellow-sensitiveness than some of the orthos. The difference is seen best in negatives, less distinctly in the prints, and is so slight that I think it would be altogether imperceptible in a halftone reproduction from the prints. The result aimed at in the non-filter plate, it seems to me, might be accomplished if the makers would be satisfied with a plate of low speed. I am led to believe this by the fact that the only plate that gave me anything like a correct color rendering, without filter, was a very slow ortho plate, one six or eight times slower than the so-called non-filter plates of the rapid variety. It must be remembered that it is only in the blue that any plate is very sensitive. Damp the blue effectively, either by a ray filter or any other means, and you must necessarily render the plate much slower.

These four comparative exposures, made after my color-chart tests, are the result of a desire to convince myself that my conclusions, based on the latter,

FILTER OR NON-FILTER



No. 1—NON-FILTER PLATE WITHOUT RAY FILTER



No. 1A—NON-FILTER PLATE USED WITH RAY FILTER

would work out in actual practice. One can see that the non-filter and the regular orthochromatic seem to work as alike as two peas, whether used with or without a filter; and the dyeing of the emulsion in the case of the non-filter plate has apparently no perceptible effects upon the actual results. As a matter of fact, there was a rather faint cloud in the sky, and of the two negatives made without



No. 2—REGULAR ORTHO PLATE WITHOUT FILTER



No. 2A—REGULAR ORTHO PLATE WITH RAY FILTER

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filter, the blue is a shade more prominent in the case of the non-filter plate, although it fails to print up from either negative. In this particular subject the yellow-green of the grass and other vegetation in the foreground contrasts directly with the blue sky reflection in the water. The reader will observe that the filter reverses the contrast in these tones.

A word as to the increase in exposure necessitated by the ray filter. The Kodak ray screen, which is a very pale yellow, needed a three-times increase with fully color-sensitive ortho and panchromatic plates, and from that up to fifteen times with ortho plates of low color-sensitiveness and some plain plates. The Isochrom, a deep yellow-orange filter, required from ten to twelve times increase with the best types of ortho and panchromatic plates, to about two hundred times with a film of low color-sensitiveness. One hundred times normal exposure with the Isochrom filter was fully enough with the one ordinary or plain plate before mentioned, somewhat orthochromatic; while two hundred times was not enough with another fast ordinary plate. Taking as a basis of comparison a subject that required one second at f-8 on a plate classed in speed as Wynne f-90, the unscreened exposures ranged from one-third to six seconds, the exposures through light filter ranged from two and one-half to eighteen seconds, and the exposures through dark filter ranged from nine to two hundred seconds.

Adjustment of screen to plate is a matter the importance of which I think is often over-emphasized. It may be, and doubtless is true, that any old piece of yellow glass will not answer as a ray filter; and, the more particular we are in requiring the colors to be rendered in exact visual luminosity, the more exactly must the screen or filter be adjusted to the plate. But I tell you truly that the lighter of the two filters that I used in my tests gave just as good rendering of colors with every other ortho plate as it did with the particular emulsion for which it was made; better with some, and also with shorter exposure. The darker of the two filters that I used, the Isochrom, was adjusted for use with the Cramer Isochromatic plates. But it worked just as well, so far as I could judge, with most of the other ortho plates tested, although with some it required a greater increase of exposure.

Almost any pale yellow filter made by a reputable house, used with any color-sensitive plate or film, will give a more nearly correct rendering of the colors than can be obtained by the same plate without any filter, and this statement, based on my experiments, applies to the non-filter plates as well as to the regular orthos. The result may be far from ideal, probably will be, as I found that there was only one combination in my tests that gave all colors in nearly their right relation, and that was a red-sensitive plate with a deep yellow filter. But for a shorter exposure, we may be satisfied with a compromise result.

I found the relation between yellow and blue as rendered by certain plate with certain filter to be a rough and ready test of the practical usefulness of that combination, for the reason that in landscape work these two colors, blue and yellow, come often into contrast with each other. The eye sees yellow as lighter in tone than blue, but the unscreened plate almost invariably inverts this relation and makes the blue lighter than yellow. Roughly speaking, we might say that

FILTER OR NON-FILTER

the particular plate and filter that gave blue darker than yellow with the shortest exposure was the most generally useful combination. The quickest exposure through my light ray filter, to give blue darker than yellow, was on an extremely rapid ortho plate, a European brand but recently placed on the market, not a non-filter brand. I have no desire to discredit the non-filter plate, but candor compels me to say that this light yellow ray filter gave a better rendering on every ortho plate I tried than was given by any non-filter plate used without.

These three reproductions simply show the difference between no filter, light filter and deep filter on the same plate, a rapid orthochromatic of standard make. One will note that the yellows in the subject become lighter and the blues darker as the filter employed is deeper in color. The cloud shown at the right was quite bold for one so low in the sky, but it does not print at all in the first or upper negative made without filter, and only barely perceptibly in the second or middle one made with a light filter. With this particular view it is a question whether the light filter does not give a more agreeable result, although not as correct as regards color values, than does the deep filter. With the latter, the blue sky reflections and the yellow-green grass on the bank are of practically the same tone. There was plenty of contrast presented to the eye between the green of the grass and the foliage and the blue of the sky, but it was color contrast, which, of course, does not count in monotone.

Over-exposure or under-exposure, either with or without a filter, has little or no



TOP—RAPID ORTHO WITHOUT RAY FILTER
MIDDLE—RAPID ORTHO WITH LIGHT RAY FILTER
BOTTOM—RAPID ORTHO WITH DEEP RAY FILTER

influence on the relative brightness of the colors. If the unscreened plate, given a normal exposure, will render blue lighter than yellow, blue will still be the lighter with fifteen times the normal exposure. It may be, I have seen it so claimed, that over-exposure in landscape work will cause reversal in the sky portion of the image, and thereby render the blue sky darker in the print than it would otherwise be, and with a better orthochromatic effect. I doubt it. I mean I doubt that the idea is at all practical. Over-exposure, if carried far enough, will doubtless cause reversal, but I believe that by the time the sky has reversed noticeably the rest of the landscape will have suffered from the effects of the over-exposure to such an extent that the whole result will be neither true to nature nor in any way desirable. Simpler by far would be the employment of a light ray filter to secure more truthful rendering of skies; and the exposure would also be shorter. I am inclined to believe that Hurter & Driffield knew what they were talking about when they said that the phenomenon of reversal was of little or no significance in practical photography.

My experimental tests showed a number of interesting things that I have already mentioned. They were principally undertaken, however, to ascertain how much better color value is given by the non-filter than by the regular ortho; both, of course, being used without a filter. And in this particular my conclusion is that among rapid plates of these two classes, while there is a difference in color-rendering in favor of the non-filter plate, it is hardly worth mentioning. I say rapid plates, because there was one brand of slow ortho plate, and one only (Cramer Slow Iso), that gave fair color values without a filter. All the rest, plain, ortho, non-filter ortho and panchromatic, gave practically the same color values without the filter; and that was an entirely incorrect representation of colors, the super-sensitiveness to blue overpowering any yellow and red sensitiveness that the plate might possess.

For absolutely correct representation of color values in monotone, it is necessary to have a plate sensitive to all colors, including red, and to use with it a properly adjusted ray filter, one that will probably necessitate an exposure increase of six times or more. I found a filter requiring from twelve to twenty-four times increase to give the colors in nearest their visual brightness. A pale filter, necessitating an increase in exposure of about three times on a fully color-sensitive plate, will give fair results for average work such as landscapes and the like. My results satisfied me that nothing approximating correct color effects can be obtained without employing a ray filter with the plates now available.

There can be no question that the art of painting, especially landscape work, through the example of the *plein air* school, has made great strides in recent years, and if at one time artists allowed themselves to be misled by photography, they have now their turn, and can show photographers how they may pursue Nature with hope of success. The lesson is being taken to heart enthusiastically by photographic societies, and by a growing body of amateurs who welcome a means of gratifying their aspiration to record and perpetuate the happy moments in which Nature has revealed to them some of her elusive charms.—ANTONY GUEST.

Atmospheric Perspective

By Paul L. Anderson



With Illustrations by Karl Struss

One of the most interesting and valuable effects possible in photography is that known as atmospheric perspective, and it is valuable because it is one of the two characteristics which enable the photographer to give an illusion distance. In real life we estimate distance through four facts: first, the stereoscopic effect resulting from binocular vision; second, the changes in local color; third, linear perspective, that is, the apparent diminution of size as objects recede from the eye; and fourth, atmospheric perspective. Of these, the camera lacks the power of rendering the first and second, so the photographer must rely on the other two, and it is hard to say which is the more important.



No. 1

Atmospheric perspective depends on the fact that the air always holds in suspension a certain amount of moisture, the quantity varying with the latitude, the altitude, the time of year, and the state of the weather, and this water vapor has the power of scattering the light. That is, the waves of light, impinging on the particles of moisture, are reflected, and the effect is as though a source of light were between the spectator and the object. It will be apparent that this effect increases with the distance, so the result is that remote objects appear higher in value than those which are near at hand. Of course, the ultra-violet rays are reflected at the same time as the visible ones, and, since about half the sensitiveness of the ordinary plate, or of the unscreened orthochromatic emulsion, is to the ultra-violet, it follows that the atmospheric perspective in the photograph is about double that which is seen by the eye, unless the photographer employs a panchromatic or orthochromatic plate in conjunction with a suitable ray filter. It is often said that the use of a ray filter eliminates atmospheric perspective, but this is not the case unless the filter is too strongly absorptive, for if the filter and plate are suited to each other the effect is precisely as seen by the eye. This effect is well seen in the accompanying illustrations Nos. 1, 2, 4 and 5.



No. 2

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which, together with the others here reproduced, have been taken, by permission of Mr. Karl Struss, from the catalogue of the *Struss Pictorial Lens*.

There is, however, a modification of this form of perspective, which we might call "artificial atmospheric perspective," and this is shown in illustrations Nos. 1, 2, 4, 5, 6, 7 and 8. (It will be noted that the first four of these show both forms.) This artificial atmospheric perspective consists in so arranging the subject as to have the middle distance and the distance well illuminated, and to place in the foreground some dark mass, either a tree-trunk, a building, a branch or a spray of leaves, or even a shadow from some object not included in the field of view, such as a cloud. The result of such an arrangement is to have the foreground distinctly darker than the middle distance and the distance, and this is the condition upon which atmospheric perspective depends. If the view



No. 3

No. 4

is an extended one the observer may perceive the lack of true atmospheric perspective, provided the photograph was taken in a dry air, but if the picture consists merely of foreground and middle distance, as in Nos. 3, 6, 7 and 8, this lack will not be apparent, since it is only by comparison of the middle distance and the distance that true atmospheric perspective is recognized.

This placing of a dark mass in the foreground is a favorite artifice with many workers, some even going so far as to use the dark mass as a complete frame for the actual picture, employing a door or an archway for the purpose. It is, however, an artifice which becomes trite if much used or if carelessly used, though it must be admitted that the inclusion of a dark foreground mass at the bottom of a landscape, as in Nos. 2 and 5, materially assists the eye to enter the picture. Overhead, as in Nos. 6 and 7, it is not so successful.

If this artifice is employed it is advantageous to have a slight difference in definition between the dark mass and the lighter middle distance, and this is one of the points in which the soft focus lenses show their superiority to

ATMOSPHERIC PERSPECTIVE



No. 5



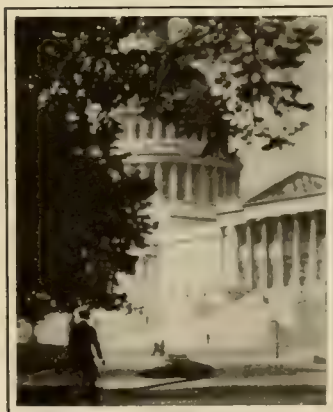
No. 6

the anastigmat, since the former, having greater apparent depth of focus than the more highly corrected lens, may be focussed on a plane between the foreground and the distance, when they will give the desired effect without rendering any plane conspicuously different from the others in definition. This characteristic is common to all soft focus lenses, and depends on the fact that no plane is rendered with absolute sharpness, so the difference between the best definition and that which is less accurate is not noticeable.

Should my readers undertake to use this artifice, they may bear in mind that it is by no means necessary to give full exposure to the foreground mass, since a mere silhouette is often all that is necessary, but, since over exposure tends to flatten the lights, it is sometimes well to give more exposure than is necessary for the illuminated distance, since the flattening of contrasts is one of the effects of true atmospheric perspective.



No. 7



No. 8
357



A More Certain Focus

By Theo. E. Peiser



All photographers, professional and amateur, know the difficulty of obtaining perfectly sharp focus in dimly illuminated interiors. In an article in the *British Amateur*, published very many years ago, probably twenty-five, which I have in a book of clippings containing many other very valuable items, a Mr. Fielding describes a method which those who have experienced difficulty in this respect might try.

Mr. Fielding noticed a photographer trying to get a focus in the interior of an old English church, by moving a candle from place to place. After watching him for a while, Mr. Fielding called him over and showed him his ground glass. He had prepared it in such a manner that he could focus quite sharply without the use of a candle.

He says, to quote his own words: "He was surprised at the ease with which the deepest shadows in the church could be focused. In fact, with my camera and a focusing eyepiece, which I always carry, I can read printed matter on the focusing screen that I cannot read in the original with the naked eye, owing to it being too far away.

"With the ordinary ground-glass focusing screen the grain is generally coarse, and when using a focusing eyepiece, besides enlarging the image, you enlarge the grain. But once you have focused on a screen fitted for aerial focusing, you will never use the old-fashioned method.

MODUS OPERANDI.

"To make one, get a piece of the finest ground glass, half a dozen microscopic slide-cover glasses and half an ounce of Canada balsam. Thoroughly clean the ground glass with soap and hot water, dry, and give it a rub with vaseline, applied with a small piece of flannel; warm before the fire, and rub again with a clean piece until the screen presents a semi-transparent surface. Now, with a fine-pointed black lead pencil make three small crosses on the screen, one on the top right-hand corner, one in the exact center, and one in the bottom left-hand corner. The use of these will be seen later.

"Next, on each of these crosses place a drop of Canada balsam, and then press a cover glass on each. It will be seen that the ground glass is now transparent. If any of the balsam oozes out from under the cover glass, it can be cleaned off with a little turpentine when set.

"Set the camera up and point it at a distant poster or sign, just too far away to read with the naked eye. Focus on this and then apply your focusing eyepiece to the ground surface of the glass. The letters are enlarged, certainly, but so also is the grain on the ground glass; but if we place the eyepiece over one of the clear places and adjust it until we get the cross shape, and move the camera until the reading comes over the cross, a slight turn of the screw will bring every letter as clear as the printing itself. Bear in mind, for the image

to be absolutely sharp, the cross and the image must be in focus at the same point; and negatives so focused will stand enlarging more diameters than if focused in the ordinary way."



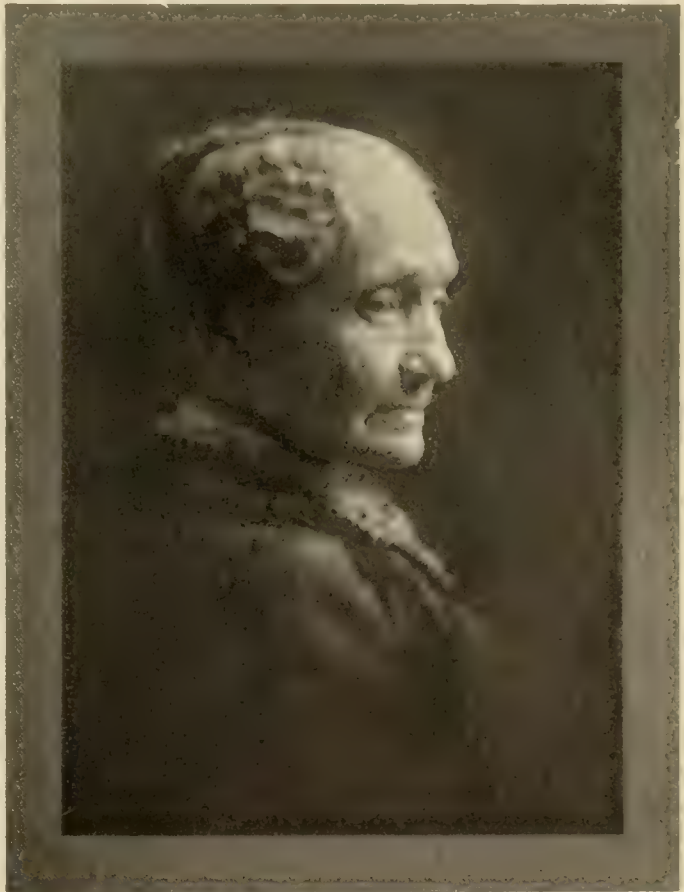
The Pen and the Pencil

By Claud H. Simson



With Illustrations by the Author

Berton Bradley's masculine and masterful sonnet, "To a Photographer," republished so thoughtfully in the February issue of this magazine, vibrates with the nobility of truth. It brings home to us the fact that there are retouchers and retouchers; some who muddle on mechanically in narrow ruts, others who work with artistic instincts, or with the power of cultivated knowledge. Some retouchers transpose the delicate texture of the skin into that of leather or sandpaper; or, perhaps into the stony hardness of the creations in a monumental yard, repellant in every way to artistic ideas; others preserve, to a greater or less degree, that texture and modeling that give life and vitality to the portrait.



A LADY OF THE PERIOD OF LINCOLN

Years ago, when the world was somewhat younger, I worked up negatives with only a fine-pointed sable and neutral tint, finishing thousands according to my own standard; and requests for alterations or obliterations were rarely

asked for. Patrons today are quite as reasonable and are nearly always satisfied if given good work. When allowed to do so, we strive to portray our sitters at their best, which means looking as natural as possible, and, properly employed, the pencil is of great assistance in attaining this happy result.

Pencil work on the negative was first introduced to my notice by a French artist who had practiced retouching in Lima, Peru. To demonstrate his methods, he worked up a negative, the portrait head of a charming opera bouffe singer, whose fair features were very attractive, but cruel fate had sadly pitted her face. This defect was grossly exaggerated in the negative; but, by the deft touch of his pencil, the original peachlike quality of the skin was restored, while the like-



GEORGE PENNIMAN

ness in all its beauty was retained. The work was looked upon as an astonishing revelation and the success of it delighted all. It is easy to spoil a good negative with crude and inferior penciling, while, on the other hand, it requires an extended experience and much appreciation of the requirements to bring out the best qualities of the negative.

There are times when sitters insist, "against all rhyme and reason," upon their wishes being carried out, as did an old lady who once came to me for her portrait. In retouching the resultant negative, I put on quite a lot of lead, with the result that the proof, when submitted, while still retaining the likeness, pictured her as looking considerably younger. "Oh, yes!" she said, "when you have taken out all the wrinkles, you may finish up a dozen." Her desires being complied with, when she called for her order and paid for it, she said on leaving: "The photographs would have been so nice, if they had not looked so much like me." Au revoir!



For the Amateur Photographer

By Mrs. G. L. Goldsmith



With Illustrations by the Author

The slogan, "You press the button and we will do the rest," sprang into popularity a number of years ago and it has maintained its position ever since. The idea conveyed by the phrase is one that has a strong appeal, particularly in connection with the little kodaks using roll films. No doubt this appeal has exerted a wonderful fascination over people of all ages and of all conditions. If one be once allowed to hold a kodak in his hands, point it at some object, snap the trigger, and then later see a print, be it ever so dim, from the resultant negative, he will surely become infected with the camera fever, never to rest content until he is the owner of a camera of some sort. Yet the ease with which pictures can be made, too often results in the camera, after a few weeks' use, being stored away or sold.

For a number of years this camera fever has been raging, sparing neither old nor young. With some it wears off in a few months, while with others it seems to persist until the patient succeeds in overcoming many of the difficulties that attend. If one has any love for the beauties of nature, he will find photography most fascinating and always be on the lookout for pleasing subjects to photograph. Beautiful landscapes are to be found in the country at all times of the year. One need only take his camera, with plenty of plates and a tripod, and wander over the hills or through the woods to find many ideal views. In the spring and autumn months one cannot enjoy a day to better advantage than by picturing nature in her many changing moods, and the camera makes it possible for one to do so without the necessity of acquiring the artist's skill with brush or pencil. Then again, during the winter months, one can, particularly after a more or less heavy fall of snow, start out early in the morning and expose a few plates on almost any scene in which an old road or field fences, particularly rail or worm fences, figure, and pleasing pictures are almost sure to result. One may even try to catch the alert bunny as he makes tracks for his home. If the snow has but recently fallen, it is a good plan to break a path through it, as an unbroken foreground of snow rarely makes a successful picture.

With a plate camera one can go out and make an exposure, return to his dark-room, develop it, and in twenty minutes see the results. Then, if one thinks the negative is over or under exposed, he can repeat with an exposure made shorter or longer and see the difference. In this way one quickly learns the difference between correct exposure and variations therefrom. With a film camera one must wait until six exposures have been made before developing, and as they are all developed alike in one strip, one does not have much of a chance to watch them come up or to control the development. One's success or failure

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depends mainly upon the quality of the negative and every care should be given to secure a good one. One has no chance to focus his views with the roll film camera, but with plates one can use the focusing screen and be sure that the view is sharp. In addition, one can see his picture full size and that is a great advantage. Some advise us to take small negatives and then enlarge. This can be done very successfully if one secures a good, bright, snappy negative; but if there are any defects, ever so small, they are also enlarged and sometimes prove quite objectionable. Of course, one can pay to have them taken out by a retoucher; but, counting the delay, it would generally prove cheaper to have used a large plate in the first place. It is true that in some ways the films have an advantage over the plates. When going on a trip, they are lighter to carry, and when the camera is loaded with twelve films they are ready for exposure at a moment's notice, while with plates one requires a few moments to arrange the camera, to say nothing of the greater load.

Photography is enjoyable work, but it requires patience and perseverance. If one has a natural liking for it, he will succeed; if not, he will soon become discouraged and give up. A mistake the beginner too often makes is in buying a camera with a lens of too short focal length for the size of plate to be used, with the results that many objects, and particularly those that are situated fairly close to the lens, appear distorted in the resultant photograph. One should never attempt to photograph children until he has had at least one year of experience, as such subjects are the most difficult with which the photographer may elect to deal. In selecting a camera, one should buy as good an instrument as can be afforded. A 5x7 plate camera having extension bellows and provided with a rapid rectilinear lens working at f-8 is a very good equipment for the beginner. The lens suggested is fast enough for all ordinary work; in fact, for most work it is as fast as the fastest lens made, for the reason that most of one's exposures would necessitate stopping down to at least f-8. In addition, the size is a very good one for taking such things as groups at reunions and picnic gatherings, where one usually receives quite a satisfactory order if the pictures are good. I use a camera of this size and, just as an example, I was called upon to take one of these reunion pictures last summer. I made the group as a whole and then made a negative of eight brothers and sisters. Both were excellent and the result was an order for three dozen 5x7 prints at fifty cents each, making eighteen dollars. At another like gathering a little later, I secured orders for thirty-two 5x7 prints and twenty post cards. I always charge fifty cents for 5x7, twenty-five cents for 4x5 prints and ten cents each for post cards.

If the work pleases the customer, one has no difficulty in getting these prices. They, the customers, are more interested in good work than a few cents' difference in price. Had I been equipped with only the little film kodak, I could not have taken the reunion pictures, and experience has taught me that a 5x7 camera is necessary for groups of this kind if I desired to make a good profit on such work when the opportunity presented. While I use a 5x7 camera, I never expose a full plate on an order for less than twelve post cards. By having a piece of heavy mount board that just fits the inside of my removable back and of such a size that it will cover either half of the plate as it is slid along from one side to the other, I can make two 3½x5 negatives on one plate.

FOR THE AMATEUR PHOTOGRAPHER



PEOPLE WANT THEIR HOMES ON POST CARDS

Then, if some one wants a picture of his cat, dog, or calf, I take it on one end of a plate and say nothing about the price. I make a print on 4x5 paper with an even white border all around, mount it nicely and then, if he is pleased when he sees it, he will ask the price, which is twenty-five cents every time. While I have one price for my work and never deviate therefrom, I always try to satisfy the purchaser. Sometimes I find it impossible to please a customer, but this does not occur very often.

Photographic work is very interesting, especially if one does his own developing and printing; and really, that is the only way to learn. One must keep on trying, trying to find out where the trouble lies as each difficulty presents itself. Really, the developing of a plate into a good negative is a fine piece of work and something to be proud of, something worthy of one's best efforts. One should always keep a dish of vinegar and water on the table so that, if the fingers come in contact with any suspicious solutions, they can be dipped therein and wiped on a rough towel. This little precaution may save a great deal of trouble and really does not take up any time worth mentioning. I would advise all beginners to wear good rubber gloves while working with the developing solutions, as so doing does away with stained fingers and minimizes the danger



A MICHIGAN RURAL HOME

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of poisoned hands. One may at first find them a little inconvenient to wear, but this will shortly pass away.

Always have enough light in the dark-room to see what is being done. Nearly all such accidents as the tipping over of the developer come from trying to work in a dim light. While a good light may not be quite as "safe" as a very dim one, one can easily keep his tray covered the most of the time and then there is little or no danger. If one will call on some of the photographers with whom he is acquainted and look over their dark-rooms, he can then arrange his own light as seems best from the knowledge gained. If possible, have a window opening out of the dark-room so that daylight can take the place of the usual smoky little lamp. Arranging for such a light will be money and time well spent. If the room is not an outside one, the window can open into another



A FEW TYPICAL POST CARD PORTRAITS

room; and, if daylight is then not available, a light outside the window avoids any heat or smoke inside the dark-room itself. Really, it makes me feel tired to hear workers complain of the trouble caused by heat and smoke from their lamps. We are obliged to put up with some inconveniences in our dark-rooms, but we surely can dispense with the lamp.

My own little dark-room has been improvised from the entrance to the cellar. I provided a trap door, hinged at one side, and this lets down over the stairs that go downward. When the space is not being used for a dark-room, this door is raised and fastened up at the side with a hook. While the space does not make a large room, it accommodates shelves for solutions, trays and all necessary utensils. At one side I have a narrow shelf with a twelve-inch board hinged to it so that when the latter is let down it is entirely out of the way. Above and back of this shelf I cut a 10x16 opening, fitted in a frame similar to a window sash, and in this last fitted two pieces of 8x10 imported ruby glass. When these were in place, I pasted a narrow strip of orange paper across the center where the two pieces met and strips of the same paper over the same joining on the inner side. All around the edges I pasted lantern-slide binding so that no light

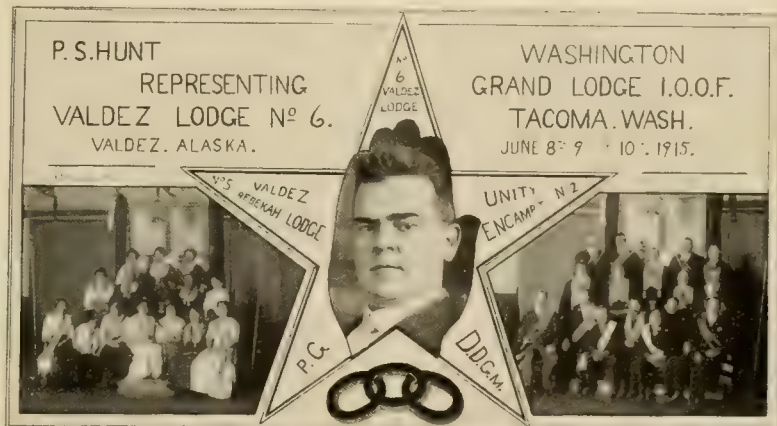
could enter the room except through the ruby glass. The reason for having the glass in two pieces is that, should an accident happen to the window, I would be quite likely to save one whole piece and that would suffice until the broken one could be replaced. This glass cost me fifty cents for each 8x10 piece. With such an arrangement, all I have to do when I want to use my dark-room is to place a common lamp on the table that stands in the adjoining pantry and it is right in front of this window. I then have a fine light and no bother with heat, smell or smoke. There is one difficulty connected with the making of a dark-room in a cellarway, and that is the shutting out of light from the stairs. However, work and patience will overcome the trouble. After I got my window finished, a photographer told me that a sheet of orange postoffice paper over two sheets of red tissue paper was just as safe as the best ruby glass, but I am not quite sure about that. I know of one photographer who is using such a window, but he does not work close to it and the light is not very good. One should have light enough to see everything on the table where he is working. If in any doubt about the safety of the light, have a little screen placed in such a position that the tray containing the plate is shaded from the light except when the latter is raised for examination. A light wood or cardboard cover to go over the tray is useful, and preferred by many to the screen suggested.



By P. S. Hunt



The copy was made by taking a business card of the desired size, placing it squarely in the lower right hand



THIS REPRODUCTION NEARLY EXACT SIZE

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large sheet of white cardboard, and then with a yardstick used as a ruler, a faint pencil line was drawn from the lower right-hand corner of the two, the business card and the cardboard, across the upper left-hand corner of the business card and some distance along the same direction on the large white card beneath. The reason for doing this was to make sure that the copy, regardless of size, would be of the correct proportion to fit the desired card when reduced to the proper size in the camera. I might explain that with the bottom and right-hand side of the large card forming two sides of the desired large copy, any upright line meeting a horizontal one at right angles to it at any point on this diagonal line first drawn, will inclose a parallelogram having the same proportion as the small card used in laying out the first or diagonal line.

I next took the two 5x7 prints showing the group of officers and put them in such a position on the large card that about the right amount of space was left for the star intended to occupy the center. Doing this of course established the left-hand boundary of my parallelogram; and the point where this left-hand boundary line met the diagonal one established the position of the upper boundary line. The five-pointed star was then laid out and drawn in with a ruling pen and India ink, as were also the double lines around the edge of the prescribed space. The two group pictures were cut to fit, as shown, and one of my own portraits was trimmed to the outline of a hand to occupy the center of the star.

All three photographs were made very soft in order to avoid harshness in the copy, which I realized would have to be from a rather contrasty negative in order to get good black and white in the letters. The three links were cut from a catalogue and pasted in position. The last work to be done was the lettering, and this was first sketched in with a pencil, changed until I felt that it was as uniform and legible as possible, and then gone over with India ink. I also drew an ink line around the cut-out hand in order to give it a more decided outline. This large card was then copied in the camera and a very full exposure given, followed by full development. The prints used on the copy were so soft that the highest lights were nearly as dark as the average halftone in a photograph. By making these prints so soft and dark, a considerable exposure was required in order to get the proper density in the negatives, and of course this made the white portion of the card so dense that the lettering stands out very clean and sharp on a white background. The cards were printed on some double-weight buff Artura Iris that, although just four years over date, gave me excellent prints and a card that was quite a novelty at the Grand Lodge.

This all takes longer to describe than it does to prepare the copy, and one will be greatly surprised to find how easy it is to produce photographic cards of this kind. The plan admits of a very wide application, and one can, by cutting out and using fancy borders, initial letters, ornamental cuts and the like from the advertising pages of magazines, produce some very effective results.

Whatever I have tried to do in life, I have tried with all my heart to do well; what I have devoted myself to I have devoted myself to completely: never put one hand on anything on which I could not throw my whole self.—DICKENS.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

DRAWINGS FROM PHOTOGRAPHS: Prints to be drawn over and then bleached out should be lightly printed so that they will bleach out perfectly white instead of leaving a yellowish brown. A glossy paper works better under the pen than does one having a rough surface and a waterproof ink; Higgins', for example, should be used. Bleaching is done with the ordinary Farmer's reducer made up from two stock solutions, four ounces of hypo in six of water and one ounce of red prussiate in four ounces of water. To use, take one ounce of the first, fifteen or twenty drops of the last, and eight or ten ounces of water. Bleach, wash well, dry, and then complete drawing.—C. J. F., Iowa.

TO KEEP PRINTS FROM CURLING: Large muslin frames take up too much room for the home worker, blotter books are not quite satisfactory if one has a big batch of prints and cards to dry, and the glycerine formula mentioned by W. B. H., Minnesota, in the February CAMERA CRAFT may not suit all workers, so I will venture to give my own method. Take a piece of muslin five or more yards long, and lay it out on the floor if no bench is available, placing newspapers beneath. Put the prints, face down, on this, and they will dry quite satisfactorily. This plan affords all the advantages of the usual muslin-covered frames while permitting one to roll up the cloth and put it out of sight in a drawer when not in use.—Reverend P. W. W., Wisconsin.

BLUE LINES ON WHITE GROUND: Pellett's method of making blue lines upon a white ground is one that was recommended years ago. The formula is composed as follows:

Gum arabic	385	grains
Sodium chloride	46	grains
Tartaric acid	62	grains
Perchloride of iron.....	123	grains
Water	3 1/2	ounces

Highly sized and smooth paper is evenly coated with this mixture, dried in the dark, and exposed under a negative. It is then developed with a saturated solution of ferrocyanide of potassium. Fix in a one to twenty solution of hydrochloric acid.—Theo. E. Peiser, California.

REMOVING ABRASION MARKS: Making several vignettéd portrait prints the other day, using the regular M-Q formula of the makers of the paper, abrasion marks in great profusion made their appearance on the white backgrounds. Having no wood alcohol at hand and being some miles from a supply, I cast about for some other means of making the prints presentable. With an ordinary water-color brush I applied a solution of ferricyanide of potassium, made just strong enough to show a good straw color, to those parts of the print affected, and at once immersed them in an ordinary hypo solution until the yellow dis-

appeared, after which they were washed as usual to remove the hypo. Of course, this method can hardly be used when the offending marks are on the image itself, since the ferricyanide would reduce the image as well as the defects; but, as the abrasions usually make their appearance on those particular parts of the print that one would wish to have clean and white, this method should interest others, especially so when in a "pinch" as I was. It requires less time and energy and is certainly much cheaper than the use of spirits as generally employed.—P. W. W., Wisconsin.

TURNING A NEGATIVE INTO A POSITIVE: Develop the plate or film as usual and then give an acid bath, made by adding one dram of twenty-five per cent solution of acetic acid to six ounces of water. Rock the tray well for several minutes, and then remove the negative and wash thoroughly. Next place face up on a sheet of black paper, and expose about one foot from a sixty-candlepower tungsten light for from three-quarters to one minute. The worker may find this time has to be varied or the distance changed, his light perhaps being different from mine. Then bleach out the image in a solution made up as follows: Water, six ounces; potassium bichromate, thirty grains; sulphuric acid, one hundred minims. The bichromate should be thoroughly dissolved in the water and the acid then added slowly with constant stirring. After the bleaching, wash thoroughly, and immerse for twenty minutes in a saturated solution of sodium sulphite, after which again wash and place in the original developer, rocking the tray well until negative is thoroughly black. Again wash and place in an acid fixing bath, where it must be watched carefully and removed when of the desired density. Washing well and drying as usual complete the process.—P. W. Weber, Wisconsin.

PROTECTING SOLUTIONS FROM LIGHT: One occasionally has use for a solution that must be kept from the light and to such the following plan of treating the containing bottle is advised: Take black paper such as is used in packing plates and paper and cut out three pieces; one a strip to encircle the neck of the bottle, one a square or round, according to the shape of the bottle, with a hole in the center for the neck to pass through, and the third piece of such a size that it will encircle the body of the bottle, reaching from the bottom to the shoulder where it meets the second piece. These pieces should be cut a trifle larger than necessary and then placed in water to swell so that in drying in place they will draw up and make a close, snug fit. When thoroughly dampened, blot off surplus water, place the piece covering the shoulder of the bottle in position and then paste the ends of the two strips encircling the neck and the body of the bottle respectively, and put in place. A little pressure of the fingers along the edges will assist in making a good joining. When these are dry, moisten and join with paste the shoulder piece and the one covering the bottle. It is unnecessary to cover the bottom, and leaving it so permits one to examine the contents for sediment or precipitation. Coating a bottle with paint is a mussy job, the paint flowing in streaks on account of the non-absorbent nature of the glass. Wrapping the bottle in opaque paper is good, but rather productive of work and annoyance if the contents are frequently in demand.—John B. Woodyard, Ohio.

CAMERA CRAFT

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No. 9

That Competition of Ours

Under the above heading we said, last month, that we hoped to be able to show a few examples of work sent in, together with a criticism from some gentleman who found it a part of his duties to select suitable cover illustrations for an agricultural paper. This last our good friend, Harry B. Potter, managing editor of *Farm and Fireside*, of Springfield, Ohio, has kindly consented to do for us, and we know of no one better qualified to give our readers valuable suggestions in the form of criticisms of a few prints submitted for the purpose. However, time did not permit us to get prints in his hands at a date necessary to catch this issue; in fact, we had not, at the proper time, such prints as we desire to place at his disposal. This will make it necessary to delay these criticisms until next month and of course demand that the closing date of the competition be set ahead at least one month, possibly longer. Our subscribers are not sending in prints as we hoped they would. Possibly they are waiting for the closing date to come nearer, perhaps the particular kind of pictures wanted are not common with them, perhaps those who might send in prints are deterred from doing so because prizes of a few dollars are not offered—although we trust this last is not the case.

In order that there may be no misunderstanding, let us advise as plainly as we can that our idea of a competition is one that will be more beneficial to our earnest readers than one in which a few dollars in cash, or their equivalent in photographic goods, are parceled out in a more or less consistent manner at stated intervals. As we see it, the conducting of such a competition is not within the province of a photographic magazine that aims primarily to help its readers. On the other hand, a competition such as the one we are trying to interest our readers in at this time should be of particular value to such of them as are desirous of turning their knowledge of photography to practical use or who are desirous of proving to themselves and their friends that they are capable of producing work that has a value, work that is salable, work that supplies a demand. The idea prevails in some quarters that amateur photographers, as a class, are much too ready to pick up a dollar here and there by encroaching upon the field of their professional brothers, even to the extent of demoralizing the price that the equipment and maintenance of the latter make necessary. The correctness of this idea we will not discuss at this time, but we believe that the real motive of the amateur so doing is not understood. We prefer to believe that, in a majority of cases, the rather meager monetary reward is far from being the incentive, but rather, that the average amateur who occasionally seeks and secures some photographic commission to be executed for pay, does so mainly for the gratification that he derived from the assurance thereby secured that his work has a salable value in the eyes of others. We

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have known a large number of amateurs that, at a certain stage in their photographic career, seemed quite desirous of securing this sort of recognition. Later, as this form of approval no longer gave zest to their work through further progress, no interest was manifested in the opportunities presented. Of course, the amateur of yesterday frequently blossoms into the professional of today, but very rarely does the amateur of either yesterday or today evolve into the cut-rate competitor of the professional worker.

But to return to our competition, please send us a lot of prints and send them at once. If we are not running this competition as you would wish, write and tell us how you would have it conducted. Bear in mind that we are inexperienced in this direction and we have no great desire to conduct something of the kind unless it appeals to our readers as being helpful to them. To repeat, our object is to show what is wanted in the way of cover illustrations for farm publications, and, to put such of our readers as can make the kind of work that is wanted in touch with those who can use it. There are no rules and no regulations. Send in small contact prints and mark them on their backs or on the wrapper: Farm Paper Cover Competition. And send what you have that you think may be suitable, at once. There may be some small prizes or awards and there may not. The closing date may be November first, and it may be somewhat later. And, while we do not promise to return any of the prints sent, we may return quite a few if time and opportunity permit. However, any prints sent will not go out of our hands except to be returned to their senders, and any inquiries that may develop will be immediately turned over to the maker of the prints.

The Sixth Annual London Salon

Prospectus and entry form of this annual exhibition reached us just too late for notice in our August issue. The last day for receiving pictures is September seventh, which, of course, makes this notice unavailable to our readers, but the fault is not ours and we much regret that earlier announcement did not reach us. The Salon will be held at the Galleries of the Royal Society of Painters in Water Colors, at 5a, Pall Mall East, London, from the eighteenth of September to the sixteenth of October, inclusive. The regulations are the same as heretofore, with the exception that the pictures are to be sent unframed this year.

Visitors to the Exposition

Miss Reith, who has had charge of the reception room for Straus, of St. Louis, for quite a number of years; George W. Harris, of Harris & Ewing, Washington, D. C.; Jack Savannah, the well-known photographer of Victoria, British Columbia; O. P. Angvire, a leading photographer of Spokane, Washington, and W. Ball, of Corvallis, Oregon, are a few of the people prominent in photography who have recently been attending our Exposition. All expressed themselves as highly pleased with their visit, particularly Mr. Savannah, who has many friends here, and Mr. Harris, who is a former resident of this city.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

War and The Digest

One of the most notable and disastrous results of the war is the total hold-up of original research. The writer is acquainted with many workers in science and they have all assured him that they cannot concentrate. If this is true in America, what must it be in Europe, where every one has a personal as well as a general interest in war's horrors. The columns of the photographic press reflect this dearth of interest. We receive our foreign journals once more, but there is little to report.

In the present issue I have thought it well to abstract chiefly from papers dealing with matters of composition and color, as, notwithstanding all that has been written in books, there is a great lack of understanding on the part of those engaged in photographic practice.

Color Rendering In Color Processes

It is in the nature of things that color photography should be subjected to severe criticism on the part of both scientific and artistic purists, and genuine sound criticism is to be welcomed for the sake of progress. Unsound criticism is, however, quite another matter; it does no good to anybody, and may, at times, unduly discourage certain workers who, if they had only been strong-minded enough to rely on their own judgment, might otherwise have done much to advance color work.

The majority of the criticisms that I hear on the subject of color photography are concerned with the truth of the colors as recorded, and in very many cases these criticisms have little or no real value. I do not claim by any means that a color photograph is always absolutely true in color, probably it never is, but it is often remarkably near to truth, and far more accurate than the more or less prejudiced ideas of the critic. I once saw a very fine series of color slides shown by the three-color pro-

jection process. All were of Mediterranean or Riviera scenes, and a great feature of them was the remarkable truth of the color rendering. Another color worker severely criticised them on the grounds that neither the sea nor the sky was correct in color, and only some time after was it discovered that that particular critic had never seen the Mediterranean; in fact, had never been further south than Cornwall, and therefore was perfectly ignorant of the color of the Mediterranean or of southerly skies.

In a precisely similar bold fashion paintings of Egyptian scenes have been criticised as far too crude and gaudy in coloring, though the critic has never been within a thousand miles of Egypt. I have also heard Autochromes condemned because they may never be observed or realized at all by a man who has never attempted to paint in color and has merely a well-fixed conviction that "green grass" is always green and a "blue sky" always blue. It is often stated to be a defect of the Autochrome that it fails to give a correct color rendering towards the end of the afternoon, but in most such cases the knowledge of the critic is far more at fault than is the Autochrome plate, which is, most probably, seeing things as they really are much more accurately than is the critic. There is a practical difficulty in appreciating this point, because if the exposure was made late in a poor light the result will be almost invisible in the same light, hence it is difficult to arrange any direct comparison of Autochrome with original. Nevertheless, it is a fact that the very dull and perhaps degraded colors that are all we can see in an Autochrome exposed late in the afternoon are often very nearly true to nature.

Want of knowledge on these points leads many workers to make the mistake of attempting to improve the colors by intensification, an operation which can only brighten the colors, but cannot alter their tone. The

colors which are characteristic of, say, five p. m., cannot be changed to represent mid-day colors, and the attempt so to change them only results in a quite false effect. Seeing that few will recognize a true reproduction of evening colors as true, it is open to doubt whether it is really worth while to attempt color photography at out-of-the-way times—that is, for the purpose of producing results for exhibition, or that will naturally be subjected to criticism. The process is likely to be very unjustly condemned, and therefore it is best to employ it when the lighting conditions are such as to show it at its best to the uninitiated. For purposes of study it is, however, both instructive and useful to make a series of color pictures on the same subject, at different times and under different weather conditions. A simple still-life subject will serve, and the color changes which will be recorded almost hourly will probably astonish the experimenter, and also teach him to see natural colors more correctly. Of course, in such a test it is not fair to put the process to too severe a trial. There is at the present time probably no process that represented soldiers' scarlet tunics incorrectly, the critic being quite oblivious of the fact that different shades of color are used, and that all are liable to change with wear. No one can safely say that the soldier's tunic is incorrect in the Autochrome if the tunic itself is not at hand for comparison. In this particular case one could not say whether the tunics were correct or not, but anyway they were all represented in quite possible colors, and so the criticism was, to say the least, unfair.

The truth is that it is a very difficult thing to appraise colors mentally with any approach to correctness. The painter who has been analyzing and studying color all his life may be able to do it, but even he is liable to form what we may term a habit of color vision, and to see and appreciate the scale of nature's coloring in a higher or lower key than other painters. Possibly it is very fortunate that he does do so, for if all painters saw nature exactly alike their renderings would be somewhat monotonous. The man who has never made any special study of color is, however, a very poor judge of it, and is, as a rule, totally unable to judge whether a color rep-

resentation is correct or not unless he has the original in front of him for direct comparison.

To the untrained eye, color is largely a matter of prejudice, and a little practice in painting should serve to convince any one of this fact. The student is often puzzled and worried by the fact that an hour or so after he began his attempt at, say, a water-color sketch, all the colors he first used seem to be wrong. He has failed to observe that the colors of nature have been changing all the time as the quality of the light changed, and this very strong change of color is a thing that will simultaneously render all colors correctly, though most processes, if used properly, can be induced to render a short series of colors, not too violently contrasted, with a very close approximation to truth. A good variety of foliage greens and browns may form one test object, while another may consist of various yellows. Good results may then be obtained in either case, though the attempt to secure yellows and green together may result in one color succeeding at the expense of the other. A very usual mistake is to test a new process on the greatest variety of colors that can be found. One or more of the too numerous series is sure to be defective, and then the process is condemned as failing to reproduce that particular color, whereas the truth probably is that it will represent that color quite well, given suitable exposure, etc., though at the expense of some other color. Most processes have some defect in their power of representing color. For example, the Autochrome is incapable of reproducing very deep red. This is, however, not a very serious defect, and, in fact, is no defect at all if we avoid the exceptional subjects in which deep red is a color of importance. It is frequently condemned very unjustly for its representation of green, the reason being that sometimes the critic is quite unable to judge the greens, while sometimes the worker himself has deliberately gone wrong because he himself is unable to appreciate the true greens of nature. This is another case of prejudice in respect to color. The worker may go out of his way to intensify the green of, say, a grass plot; simply because he labors under the prejudiced opinion that "green grass" is always green un-

A PHOTOGRAPHIC DIGEST

der all conditions of lighting. If he could only see and appreciate the very varied coloring of grass in sunlight and shadow, even when it is in the very "greenest" of conditions, he would put more trust in the process and less in his own powers of correction.

On this matter of criticism my advice to workers is, as far as possible, to test the accuracy of their results by direct comparison with the original, and then, if satisfied, they can completely ignore adverse criticism in regard to color rendering, and at times may have the opportunity of making the critic feel rather small.—C. Welborne Piper in *British Journal of Photography*.

Focal Length By a New Method

The following way of finding the focal length of a lens is believed to be new, and is certainly simpler than many of the methods recommended:

First draw two short vertical pencil lines at about the center of the focusing screen, exactly one inch apart and parallel with each other. Focus sharply with the full aperture of the lens on a far-distant object, such as a remote church spire or factory chimney, and mark carefully on the camera baseboard the exact position of any convenient part of the moving lens front, or, if a pointer is fitted, mark the position of that. Measure off one inch in advance of the "infinity" mark so obtained, make a second mark, and rack out the camera till the front or pointer is against it. Lastly, fix up a foot rule horizontally at about the height of the lens, with the figures upside down, and move the whole camera to and fro, without any other adjustment, until the rule is in the sharpest possible focus at full aperture, and with the commencement or zero of the graduations coinciding with the left-hand pencil line. Then the number of inches of the rule seen between the two pencil lines will be equal to the focal length of the lens. In other words, the exact focal length is automatically recorded on the ground glass. Thus, if it be noted that seven and one-half inches of the rule fall between the two pencil lines, the lens is of seven and one-half inch focus.

If a long bench is unavailable, the most convenient procedure is to fix the rule to a wall with drawing pins, and to set up the camera on a small table. The rule is then

got roughly in focus by moving the table with the camera, and is finally sharply focused by pushing the whole camera to and fro over the table. Care must be taken that the camera is properly square with the rule, and that both the camera back and the wall, easel, or other support for the rule are vertical. It greatly facilitates exact focusing if the rule is of white cardboard with black divisions and extra large figures. The worker can readily make one of this description for himself by accurately copying the graduations from an ordinary boxwood or ivory rule, but increasing the size of the figures. For lenses over twelve-inch focus, a two or three foot rule will, of course, be necessary.

Those to whom the rationale of the foregoing method is not quite evident may assure themselves of its exactness by the following formulæ: Let F = principal focus and R = ratio, or proportion between the size of the image and that of the object. Then the minor conjugate or distance from lens to ground glass = $F + R$. When we mark off and set the camera front to one inch from the infinity mark, then $\frac{F}{R} = \text{one inch}$. But if $\frac{F}{R} = \text{one inch}$, $\frac{F}{R}$ must also = $\frac{F}{F}$ and, therefore, $R \text{ must} = F$. Under such conditions, returning to the example previously given, if we get seven and one-half inches of a foot rule within a space of one inch on the ground glass, the ratio is obviously seven and one-half, and as $R = F$, seven and one-half inches is the focal length.

There is, perhaps, some risk of magnifying any slight inaccuracy that occurs in measuring off so short a distance as one inch on the baseboard and the ground glass, though in nine cases out of ten the effect would be insignificant for practical purposes. A greater distance would eliminate, or, at any rate, considerably reduce, the chance of mechanical or optical error. Fortunately, the above principle can be applied in just the same way by measuring off any increased distance on the baseboard and making the penciled lines on the focusing screen an identical distance apart. For example, if we mark off five inches on the baseboard from the infinity mark and make the penciled lines on the screen also five inches apart, then, on setting the camera front to the five-inch mark and moving the

whole apparatus to and fro till the rule is sharply focused, the focal length will be registered between the penciled lines. Provided the two marked distances are kept alike, they may be of any desired length—the greater the better—the only limits being the size of the focusing screen and the length of the baseboard or extension.—A. Lockett in *British Journal of Photography*.

The Lure of Color

One of the most difficult and yet important lessons which every photographer has to go on learning always is the separation of color from light and shade. There are many camera workers who can produce excellent technical work, but who only produce pictures by chance or luck, because they have not learned to recognize the all-important fact that in our monochrome prints we rely chiefly, almost entirely, on light-and-shade contrasts, while practically all subjects in nature appeal to the eye partly by color and partly by light and shade.

Again, disappointment is frequently experienced by the photographer who is attracted by reflection images in calm water, and endeavors to record them by means of the camera. In nature these reflection—sometimes miscalled "shadow"—pictures are often quite charming to the eye by reason of the delicate subduing of the colors of the reflected image. But in our ordinary monochrome print this color charm is not only absent, but is seldom even hinted at. It is a case of "Hamlet" with the Prince of Denmark left out of the play. The sooner the worker gives this subject his careful and constant attention, the sooner he will start on the picture-making road.

"But what about ortho plates, and so on?" asks the reader. "Do they not compensate for all that kind of thing?" Here lies a stumblingblock which hitherto has tripped up nearly every photographer, young and old. Using an ordinary plate and photographing blue and yellow flowers, our blues come white, and yellows nearly black in the print, which, of course, is a false caricature of nature. An orthochromatic plate and color filter put these matters near the truth by giving us the yellows lighter than the blues. A panchromatic plate goes a step further, and gives us better rendering of the reds. For all of which aids we are

truly grateful. But the intelligent photographer, like Oliver Twist, wants "more"!

Colors appeal to us in two different ways: they have light-and-shade-contrast qualities, which the color-sensitive plate puts right; but beyond this there remain color contrasts. For example, suppose we have red poppies against a quiet green background of grass, etc. Now, by way of example, let us suppose that the light-and-shade value of these particular reds and greens is equal. The panchromatic plates, therefore, ought to give both as of the same light-and-shade value—say midway between black and white, by way of example. In our resulting print the red flowers would practically vanish out of notice, and the whole scene be one uniform half-way tone. But to the eye the color contrast between the red and the green is most pronounced, each enforcing the other, being complementary. To the average observer, in a fairly good light the red will be more telling, more assertive, than the equally luminous green. Consequently most artists, if translating this into black and white, would make the green grass somewhat darker and the red flowers decidedly lighter than the half-way tone, which, according to strictly scientific luminosity translation, each should have.

The astute reader will, doubtless, have already grasped the main point, viz., that when viewing a subject in nature with the eye, we are to ask ourselves how much of this subject's attraction is due to light-and-shade contrast, which our color-correct plates will look after for us, and how much to color contrast, which will probably be chiefly conspicuous by its absence.

There is an interesting relationship between the color of an object and its image size which is often overlooked. Yet it must be a matter of almost universal knowledge and experience among photographers to have noticed how much brighter the colors of nature appear on the ground glass or finder. The small-scale image picture seems to concentrate and purify, as it were, each color, so that the different colors accentuate each other by contrast effect. On this point, it may suffice to remind the reader of what has already been said on color contrast, with the warning against being misled as to how much of the attractiveness of the focusing screen or finder picture is due to light

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and shade and how much to color brightness and color contrast. Do not forget that, with most finders, at any rate, the scale of the picture is smaller than that of the corresponding negative, and that both color as well as light and shade are correspondingly accentuated by the smallness of scale. Also it is to be noted that contrasts of color effects vary appreciably according to the strength of light in which they are viewed. (This is sometimes referred to as the Purkinje effect.)—*Amateur Photographer*.

Distortion

H. J. Williamson has an article in *Photography* on the above subject from which we abstract the following passage, one that presents an unusual view of converging distortion:

"If the camera is tipped up or tipped down (the former may often happen, the latter rarely) so that the plate or film is not vertical when the exposure is made, then the picture will show a form of distortion which cannot be put right by any trimming of the print. If the lens end is tipped up, the vertical lines in the subject, instead of being parallel, will converge towards the top of the picture. A building with a perfectly square front will be narrower at the top than at the bottom; its side walls will appear to be falling inwards. If the lens end were pointed downwards, the building would be wider at the top than at the bottom; its side walls would seem to be falling outwards.

"When we stand on the ground level and look at a straight-sided tower, there can be no doubt that we see it as it would be rendered by a camera tilted upwards. The top of the tower is much further from the spectator than the bottom, and so the image in the eye of a straight line across the top of the tower, such as a course of bricks, for example, will appear shorter than the image of a similar course running across the bottom of the tower, although the actual length of both courses is the same. If we stand on a bridge over a railway and look along the lines, we realize that, although they are as parallel as the sides of the tower, they appear to us to converge, and in a photograph they would be shown as much closer together in the distance than near at hand. Yet the relative position of the eye and the lines may be exactly the same as of the eye

and the sides of the tower. The particular form of perspective rendering which it has become the convention to use in pictorial representations, however, shows the vertical lines of the original as parallel in the picture, however much further the top of the tower is from the eye than the bottom.

"In order to get this in a photograph, the plate or film in the camera must be vertical at the time of exposure. It does not matter whether the front of the camera carrying the lens is tipped up or not; this will not make any difference to the perspective of the picture, although it may have an influence in other directions, but the plate or film must be vertical. Hence, if we are going to tip the camera, we must either be prepared to swing the back of it, so that, in spite of tipping, the plate or film is vertical, or else we must put up with the distortion to which we have just referred.

"The other point about this form of distortion to which reference was made is that, although it cannot be cured by trimming the print, it is possible to have a negative in which it is very visible, and yet to make prints which do not show it. The way in which it is got rid of is to make the prints, or if preferred to make a copy negative by means of an enlarging apparatus of some kind, and to swing the original negative and the bromide paper or whatever it is that is being used, so that they are no longer parallel. The swinging is done until it is seen to introduce enough distortion on its own part to counteract the similar distortion which was obtained when the original negative was made."

Pictorial Telephotography

The reply by Mr. Kingham to the letter of Howard Burnett on the subject of telephotography, which will be found in our "Correspondence" this week, raises the very interesting question of the "naturalness" of the perspective rendering which is given by high-powered telephotographic lenses. Ernest Marriage, who has specialized for long on this subject, writing in "Elementary Telephotography," gives examples which show the telephoto lens as having the advantage, and, even where it does not, in the case of an Embankment picture, he seems to attribute the apparent falsity to other causes than the lens. Mr. Kingham suggests that an excessively narrow angle, such

CAMERA CRAFT

as is given by the very high-powered telephoto lens, is as wrong as an excessively wide angle. Against this may be urged the view that, in pictorial matters, we are only concerned with appearances. The wide-angle view is wrong because it looks wrong; and if the narrow-angle view looks right, it is right. We certainly believe that moderate power telephoto lenses work at a much more truthful angle than the lenses normally supplied; in other words, although the eye includes a wide angle of view, what we may call the angle of interest is a very narrow one. There can be very few photographers who have not been surprised frequently to find that a subject which seized their attention at once when seen, appeared from the same standpoint as occupying only a very small space on the ground glass when the ordinary lens was used. We have an example frequently under observation. A very charming glimpse of sunlit white-washed cottages at a bend in a country lane and backed up by a rich background of trees tempts every photographer almost to set up his camera with the idea of exposing a plate. It is a ready-made picture seen at a glance. The view having been observed on the ground glass, he moves forward evidently to get the cottages on a larger scale. When these are seen from the viewpoint which shows them on a reasonable scale with the average lens, the picture is lost altogether, for the photographer is so near them that the trees no longer form a background, the cottages coming against the sky. A confirmation of this opinion we found in the fact that, when carrying a quarter-plate camera fitted with both a six-inch and a seventeen-inch lens, many more than half the subjects which we noticed and wished to photograph came better with the seventeen-inch.—*Photography*.

Intensifier For Line Work

The following method, by "Practicus," in the *British Journal of Photography*, is little known. It might be worth trying with very thin autochromes.

There is a form of silver intensifier which has its special use, that is to say, in the intensification of line negatives where the utmost contrast is required between the lines and the ground. For this purpose it is a favorite intensifier among users of dry plates in the making of screen negatives for

halftone engraving. The plate is first bleached in a mixture made by mixing equal parts of copper sulphate solution and potassium bromide solution, each of the strength of one hundred grains per ounce. These chemicals should be dissolved separately in hot water, the solutions mixed hot and left to cool, when the greenish mixture should be poured off from the crystalline deposit which settles. The mixture is a very rapid bleacher and the plate is whitened through to the back in usually less than a minute. It is then passed through three or four baths of one in fifty acetic acid, remaining in each only five minutes. It is then placed in distilled water for a minute or two and then in a ten per cent solution of silver nitrate, in which it gains great density. The density is usually great enough on removal from the silver solution, but if necessary it can be further increased by washing for ten or fifteen minutes and applying an ordinary alkaline developer. After darkening the plate it is given a further short wash in water, then put through a weak bath of common salt (exact strength not important, say one-half ounce in twenty ounces of water), and finally washed for about half an hour. The degree of intensification is too great for most negatives of halftone subjects, but, as I have said, for the intensification of line negatives the method is one of the best which can be used.

Autochromes By M. Q.

At the meeting of the newly organized Los Angeles Photographic Club in the training school room of the Los Angeles public library on the evening of the first Thursday of July, R. S. Crandall, C. W. Courtney, Hugh McClung and C. W. Holmes were voted to membership. Owing to lack of time of committee members, there was no report on quarters and membership as scheduled. C. L. Hogan, the club treasurer, explained his method of development of Autochromes, by which he has obtained very successful results. His system consists in giving a rather full exposure to the plate, which he develops by inspection from one and one-half to five minutes, according to particular subject and exposure of the plate. This plan, according to Mr. Hogan, is most successful using plenty of bromide in developer and, of course, with a perfectly safe light for inspection.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Pyro Stains On Fingers

The other day there happened to be two visitors present when the subject of pyro as a developer came under discussion. One bemoaned the fact that he could not use his old friend pyro because his employment would not permit of discolored fingers and the other proudly displayed his own stainless hands and said that he developed a few plates with pyro almost every evening of his life. Explaining how he did it, he said: "To a twenty-five per cent solution of sulphite I add any acid that may be handy, enough to give the solution a good strong odor, and this is kept in a bottle on my chemical shelf. When about to develop, a little is poured out into a graduate or something, placed conveniently, and about eight or ten times its bulk of water added. When the fingers have to be dipped into the developer, they are immediately afterwards immersed in the acid sulphite solution and then rinsed off. Finally, as the work is done, the hands are given a good wash in the solution, a little pumice powder being used as an extra cleansing agent. Of course, the solution will not do the impossible. One should keep his fingers out of the developer as much as possible and not neglect to use the mixture immediately before the pyro has a chance to sink in and become oxidized too much."

Preserving a Tank Developer

Another visitor gave us a suggestion that may be of some assistance to other workers. He explained that he did his film developing in a tank that consisted of a stone or earthenware churn, the dasher and top of course being discarded. The shape of this compels the use of quite an amount of developer and naturally the question of preserving it became important. Buying a four-ounce bottle of sewing machine oil, this was poured over the top of the solution, where it has behaved itself admirably as a preservative for over six months, the developer now being as active

and almost as clear as when first mixed up early in the year. Just how it would act if dry films were immersed through it is not known, but as the gentleman always gave his films a short immersion in clear water they go down through the film of oil without carrying any of it on their surface.

A High Viewpoint

One of our subscribers has been doing view work throughout the rural section of the State during the summer months; and, visiting us recently, we had the pleasure of going over some samples of his work, work that was above the ordinary of its kind. The most marked peculiarity of his views was the evident quite elevated position from which they were taken. Remarking upon this brought forth a soft laugh and the following explanation: The idea was given me by examining an old series of farm views, evidently reproductions from drawings made on the spot. These were all drawn as if the house and farm buildings were seen from an elevation, the artist finding this the only means of arranging matters so that all the details of the farm could be shown in one view. In my travels about I tried to secure the same effect whenever possible, and found it was quite easy in practically every case. On every farm there is at least one ladder, and this, joined at its top with the ends of two poles or scantlings of about the same length, form a monster tripod, up one leg of which steps or rounds are provided by the ladder. The camera easily finds a resting place on some part of the joined ends and, despite the rather frail appearance of the structure, it is perfectly safe for exposures of several seconds if the wind be not blowing too strongly. Of course the weight of the operator and the camera acts as an additional element of stability and the only precaution necessary is to see that there is no danger of the foot of the ladder or the ends of the poles slipping. When two ladders are avail-

able, it is best to use them in conjunction with but one pole or scantling, forming a tripod as before. Our visitor reported that he had made hundreds of views in this way and had never had an accident of any kind, despite the fact that some of the elevations secured were quite lofty ones.

Reducing Too Dark Bromides

Farmer's reducer, ferricyanide of potassium and hypo, is used quite extensively for the reduction of bromide prints that are too dark or that require being made lighter throughout. The drawback is that there is a little too much inclination to eat away the detail in the lights and there is some danger of yellow stains. A local worker has been following a plan recommended in one of the foreign journals about a year ago, with the best of success. Two solutions are required, one ounce of potassium ferricyanide in twenty ounces of water and another of two ounces of chloride of sodium, common table salt, in a like amount of water. Five drams of each of these two solutions are added to a fresh quantity of water, about twenty ounces, the print immersed for a few minutes until it bleaches slightly, then rinse and transfer to a fresh hypo bath of a strength of two ounces of hypo to twenty ounces of water. Ten minutes' immersion and the regulation washing complete the process. A little experience is necessary to judge the exact amount of bleaching to permit, but that knowledge gained, the process is quite easy, simple, and satisfactory.

An Interesting Album

There was a little lady in our office the other day, coming in to renew her subscription while here visiting the Exposition, and she showed us an album, one of two she was making for her children, a boy and a girl. It is not a large one, but it is quite attractive, having been made to order and neatly lettered on the cover. Each page is only large enough to hold a $3\frac{1}{4} \times 4\frac{1}{4}$ print with generous margins. On one side of the leaf is pasted a print while the opposite side carries a transparent envelope in which is deposited the corresponding film negative for future use. Each time one of the children has a new suit or a new dress, as the case may be, a picture is taken, generally with the toy, pet or companion most in the child's mind at that particular period. Of course,

not every change of costume is recorded but every departure from the general style last worn is given attention. Following this plan seems more interesting than the taking of such pictures at stated intervals; and, as the completed albums will record practically every form of dress from babyhood up, they should prove of absorbing interest to the recipients in later years, particularly to the one now interested in the wardrobe of an almost life sized doll that figures with her in one of the most recent pictures.

Photographing Cut Glass

A correspondent in Chicago wishes to know the best method of photographing articles of cut glass. He has in mind some such results as he has seen in the elaborate catalogues gotten out by the manufacturers of these goods. He must first realize fully that these catalogue illustrations are all made from photographs that have been very carefully and laboriously retouched by an experienced air-brush artist. The making of the photographs used as a basis for this work is mainly a matter of skill based on considerable practice. The plan adopted by one worker who is quite successful is to surround the article with a light, cloth-covered frame so as to get very diffused light all around except from slightly to one side of the back, that particular side of the surrounding screen being open, while the other sides and the top are covered with some thin diffusing medium like cheese cloth. The lens is provided with a shield, so that the strongest light, coming from so near the front, is not allowed to enter and fog the plate. This shade is preferably one having a front of parallelogram shape so as to exclude all light possible without cutting off any part of the plate.

Fireproofing Cloth

An Iowa correspondent wants a formula for fireproofing cloth. The following, although we have never given it a trial, comes well recommended: Dissolve thoroughly in twenty-four gallons of water, eight pounds of sulphate of ammonia, two and one-half pounds of carbonate of ammonia, two pounds of borax, three pounds of boracic acid and two pounds of starch. Cloth dipped in this, lightly wrung out, and then dried, is said to remain fireproof for several months, when another immersion should be given.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

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NEW MEMBERS.

4111—Miss Leone Dellone, 1529 Park Ave., Omaha, Neb.

Class 2.

4112—James F. Gifford, Letter Carrier No. 99, P. O. Bldg., Omaha, Neb.

Class 2.

4113—William Wroblewsky, Brunkild, Man., Canada.

3½x4¼, developing papers, of photos taken on the farm, horses on the plow, etc.; for

railroad wrecks, farm views, historical places and scenes of general interest. Single-weight prints only. Class 1.

4114—C. W. McPherson, 3219 Charlotte St., Kansas City, Mo.

2¼x3½ to 8x10, developing papers, of water scenes, landscapes, and views of general interest; for the same. Post cards only unless by special arrangement. Class 1.

4115—E. Van Antwerp, Dent, Minn.

Class 3.

4116—Fred Gruneisenm, R. F. D. No. 9, Mansfield, Ohio.

3¼x5½, developing papers, of landscapes and farm views; for general scenery or anything of interest. Post cards only on developing paper. Class 1.

4117—F. R. Bulgier, R. F. D. No. 4, Forney, Texas.

Up to 6½x8½, developing papers, of portraits, landscapes and farm scenes; for portraits, children especially, and landscapes. Only good work sent and expected. Class 1.

4118—B. F. Bianchi, 888 St. Nicholas Ave., New York City.

2¼x3¼, 2¼x4¼ and 5x7, developing papers, of landscapes and New York views; for landscapes, marines and pictures in general. Class 1.

4119—Mark Belloni, Jr., Campo Seco, Cal.

Class 2.

RENEWALS.

1771—Burton H. Allbee, 724 E. 22d St., Paterson, N. J.

Lantern slides only of historic buildings and sites; for the same. Class 1.

1909X—E. Van Valkenburgh, Box 184, Inverness, Cal.

Class 2.

2090—Albert H. Tolin, 2185 N. Rural St., Indianapolis, Ind.

Class 2.

2563X—Nathaniel Mortonson, 806 High St., Marquette, Mich.

Class 2.

3394X—George B. Ley, Lock Box No. 2, care Bert B. Ley, South Akron, Ohio.

3900—Paul Collins, R. F. D. No. 4, Box 29, Albany, Ore.

Post cards and 5x7, developing papers, of out-of-doors portraits, Oregon scenery and local views; for views of general interest. Class 1.

3952—Orin Dudley, San Anselmo, Cal.

2½x4¼ and 4x5, developing papers. Wish to get in touch with a few good workers who work the Steadman system. Class 1.

CHANGES OF ADDRESS.

403—Miss Lou P. Tillotson, 822 South 38th St., Omaha, Neb.

(Was 1305 South 32d St.)

3719—P. F. Jansen, Washington, La.

(Was Crowley, La.)

3993—Lester J. West, Nashville, Ore.

(Was Chichagof, Alaska.)

4048—Carl H. Gissan, 136 Upland Terrace, Bala, Pa.

(Was Philadelphia, Pa.)

4067—C. W. Welty, 806 South 3d St., Effingham, Ill.

(Was Pandora, Ohio.)

4109—Leslie Welch, 555 South 5th St., Portland, Ore.

(Was Long Beach, Wash.)

CLUB NEWS AND NOTES

Club Secretaries and others will oblige by
sending us reports for this Department

Autochrome Developing Method

The Cleveland Photographic Society celebrated its second anniversary on June second with a reception and dance given in the large assembly hall at its quarters, 412 Superior Avenue, Northwest. The orchestra, made up of members, comprised two violins, a piano and a 'cello. Several vocal selections were rendered.

The second meeting of the month was devoted to a demonstration of the bromoil process by W. H. Hatch, of the Sargent Photo Supply Company, an able exponent of this process. Those present were much interested in following the method by which Mr. Hatch produces his exhibition prints, and several essayed the application of the colored ink to the print, their so doing bringing out the technique of handling the brush.

A demonstration of flashlight autochrome work by A. D. Williams occupied the evening of June sixteenth, a handsome bouquet of peonies serving as a model. In the development of the plates, the lecturer employed the method devised by M. F. Dillaye, in which the plate is rendered insensitive to red light by immersion in the following bath:

Water	10 ounces
Potassium bromide, ten per cent solution	1 ounce
Sodium bisulphite, saturated solution	$\frac{1}{2}$ ounce

Immerse two minutes in total darkness. This method enabled those present to observe the process of development. The simplicity of the process was a revelation to many of those present.

Government Photographers Organize

The photographers in the United States Government service at Washington assembled on the evening of April tenth, in answer to the call of Dr. Thomas Smillie, of the Smithsonian Institute, and Prof. L. W. Beeson, of the Agricultural Department. The meeting was convened for the purpose

of giving effect to a much-desired but heretofore somewhat indefinite plan to perfect an organization which can speak with authority on matters of importance to the profession such as have not up until now received the organized consideration which they merit.

The purpose of the Association is distinctly divorced from that of financial aggrandizement, or of furthering the material interests of its members. It is a new step in the right direction designed to elevate the photographic profession to the artistic and scientific plane to which its right is coming more and more to be recognized by the general public. By a well-conducted series of lectures, careful and organized research along scientific lines, and through co-operation with the highest class of investigators in commercial circles, the association should fulfil the purpose for which it is being created by the voluntary action of its members.

At the meeting, H. T. Cowling, Chief Photographer, United States Reclamation Service, was selected as permanent chairman.

Pyro and M.-Q. For Autochromes

The Los Angeles Photographic Club met on the evening of the first Thursday in August on the tenth floor of the Public Library Building. Different members of the club suggested various means of securing sufficient membership in order to justify the responsibility of engaging permanent quarters for the club. Personal invitation to attend meetings in the Library Building on the first and third Thursdays of the month and regular club notices in CAMERA CRAFT were unanimously decided to be the most practical methods of getting in touch with those around Los Angeles, interested in photography. R. S. Crandall, one of the pioneers on the Coast as an Autochrome worker, explained his method of working these color plates. Crandall is an advocate of development with pyro in first development, using an excess of bromide above the

OUR BOOK SHELVES

amount given in the printed formulæ. Using pyro with excess of bromide and full exposures, and judging development of each plate individually, Crandall finds that he gets a higher percentage of good results than by following the instructions that come with the plates. Second development is performed with any developer that gives a black image. The plates shown by Crandall are practically technically perfect, verifying the advantages of this method, in his hands, at least.

M.-Q. Edinol For Autochromes

The Los Angeles Photographic Club met on the evening of the second Thursday of July in the Public Library Building, where those present at the meeting enjoyed an ex-

hibit of Autochromes on the screen from slides made by C. L. Hogan, E. Spafford and R. S. Crandall. Some of these slides were from exposures made on the club outing of the preceding week to Fish Canyon. Mr. Spafford explained his method of development, which consists in the use of a special M. Q.-Edinol formula, since the war price on metachinon has gone into effect. Mr. Spafford is an advocate of full exposure to Autochrome plates, with development in his pet M. Q.-Edinol formula by inspection under illumination from Virida paper filtered light. With this method he dispenses with the usual two and one-half minute method, depending upon full exposure and careful judging for his results.



OUR BOOK SHELVES

"The Spell of The Holy Land"

Still another addition to that charming series of travel books; the Spell Series, is a most vivid and intimate description of a pilgrimage to Palestine, by Archie Bell, a writer with the power of imparting to his readers no small share of his own enthusiasm and interest. Different writers have given us their impressions of this country, so intimately connected with three great religions of the world, some giving us the impression that a pilgrimage therein involved inconveniences and disagreeable features, while others give a most glowing description of its attractions to the tourist. In his book, Mr. Bell is much more convincing by his avoidance of either extreme, and his account is therefore all the more satisfying and entertaining, to say nothing of the charmingly straightforward and intensely interesting quality of his style. The book is uniform with the others of the series, containing, as it does, some three hundred and fifty pages, interspersed with numerous full-page illustrations either in full color or in sepia, together with an excellent map of Palestine and the surrounding country. Published by the Page Company, Boston; price, two dollars and fifty cents net; carriage paid, two dollars and seventy cents.

"The Secret of Exposure"

The above is the title of a handsome and

well-illustrated seventy-two page book that deals most thoroughly and conclusively with its subject. In it will be found a clear and comprehensive discussion of all the factors relating to the correct exposure of plates and films under all conditions. Particular attention is given to those classes of subjects that are most confusing to even the experienced worker, such as interiors and those by flash and other forms of artificial light. This book is No. 1 of the Practical Photography Series, obtainable in cloth binding at fifty cents or paper covers for twenty-five cents, from the American Photographic Publishing Company, Boston, Massachusetts.

"Beginners' Troubles"

This is No. 2 of the Practical Photography Series, another most instructive book that deals very fully with those particular troubles that beset the path of the beginner, troubles that the usual instruction book sometimes fails to touch upon. The beginner who will give this book careful study and attention, to the end that the troubles mentioned therein are avoided, will find himself enjoying his photographic pursuit with a degree of certainty and satisfaction that his less well-informed brother does not know. This book is also obtainable in cloth binding at fifty cents or paper covers for twenty-five cents from the American Photographic Publishing Company, Boston, Massachusetts.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported By William Wolff

I met quite a number of old friends at the Indianapolis Convention, including "Premo" Smith, who was formerly on the Coast but now in new territory with the Folmer & Schwing Division, neat and natty, as usual; also his "side kicker," Potter, who eats as fast as ever.

Mr. Hoeftle, of the same firm, was on hand and working hard. He has a thousand-acre ranch in California, on which he expects to spend the rest of his days—some day.

Mr. and Mrs. F. Ernest Cramer were in attendance, reaching there from the Exposition at San Francisco.

Messrs. Frey, Leonard and Burd looked after the interests of the California Card Manufacturing Company with their usual enterprise.

Juan Abel and Frank Chambers were there, both busy taking subscriptions.

Quite a number of the Taprell-Loomis crowd, from the "big chief" down, were actively in evidence.

The James H. Smith & Sons Company had one of their Victor Flash Cabinets set up and in action whenever the opportunity presented.

Messrs. Noble, Ames, Paul and Jones, of the Eastman Kodak Company, were, as usual, quite evidently in attendance, in all that the word could possibly imply.

Samples of Probus Print Lustre were given away at the Wolff & Dolan booth, and made quite a hit. Some eleven hundred photographers each received one.

H. Liebes Company, of Indianapolis, introduced a new "friendship" frame, one that every photographer should have. A card to them will bring descriptive circular.

Bob Barbeau had his bunch of paper demonstrators with him, as is his usual custom.

Cleveland, Ohio, gets the next convention. Messrs. Fowler, Chilcotte and Abel promise everybody a good time. Make up your mind now and be there when the time comes.

George L. Barrow, of Agfa, fame, entertained the writer during his stay in New York.

Fire On Market Street

By the exercise of his characteristic activity and initiative, H. A. Stone, who has been representing the A. M. Collins Company here for the past six months, recently prevented a serious conflagration. Going briskly along the street, Mr. Stone realized that there was incipient incineration in his immediate neighborhood. Closer investigation showed that the phlogiston was a personal possession; and, an establishment specializing in irrigation being close at hand, he availed himself of its capabilities and the flames were quickly extinguished. As the fire originated inside Mr. Stone's sleeve, the natural inference is that the too rapid and continued entering of orders with the attending friction between cuff link and coat lining was the real cause of the blaze.

A Magnificent Publication

The "Corner Stone Number" is the title given the first issue of what is called *California's Magazine*, to be published quarterly from its office in the New Call Building, this city. This first issue can hardly be called a magazine, although it somewhat resembles such a publication in arrangement of contents and size of page. Aside from a few pages of its own announcements, no advertising encroaches upon the nearly seven hundred pages of text and pictures. Why California, Natural Resources, Development, Panama-Pacific International Exposition, California Fruits, Live Stock, Co-operative Marketing, Poultry Industry, and the like, are all treated by individuals well known in their several lines of endeavor and industry. In fact, there are almost a hundred and fifty articles of the usual magazine length, nearly all of which are profusely illustrated. As an encyclopedia of California industry and advantages, this first number leaves little to

NOTES AND COMMENT

be desired. This book, the Corner Stone Number, sells for one dollar and fifty cents. It and the three following issues comprise a year's subscription, two dollars. Address California's Magazine, 708, 710, 712 New Call Building, San Francisco.

New Office and Factory

The Prosch Manufacturing Company have removed their office and factory to 313 Pearl Street, New York, where much larger and more suitable quarters have been fitted up with new and improved machinery for the manufacture of their well-known line of flashlight apparatus and supplies. This will enable the firm to not only give their many customers an improved service, but permit it to enlarge the scope of its activities in this ever-growing field. The announcement made in their advertisement, a small one in our front section, is new this month and will interest a large number of our readers if they will but look it up.

One Way of Doing It

There are many ways of advertising a photographic store, but the plan adopted by the enterprising house of Black's, of Detroit, Michigan, is unique and no doubt quite effective. The boat shown in the picture herewith is on the Detroit River practically



all day, as it is not dependent upon the wind alone, but is equipped with an excellent gasoline engine. There are between ten and twelve million people using the excursion boats that pass up and down the river each season, besides the ferry boats plying between Detroit and Belle Island Park, which are crowded daily. In addition, there are the lake boats plying between Detroit and the Great Lakes, stopping at all summer resorts along the shores of the two lakes. There

are, of course, thousands of people who see this advertisement from the docks without ever going aboard one of the above-mentioned boats.

While there may be some objection to this form of advertising from an esthetic point of view, there can be no question but that it brings the name and address of this enterprising firm to the attention of thousands of possible customers each year, not to mention the publicity given the popular product of the Eastman Kodak Company. The picture is sent by Herman W. Boers, manager of the Photographic Department of the firm in question.

Daguerre Day Proposed

A recent issue of the *Santa Clara News* contains in full a copy of the letter the popular photographer of that city, Claud H. Simson, has addressed to the Photographers' Association of America, meeting in Indianapolis this year. This letter contains a suggestion that the memory of the founder of photography should be honored by the photographers of America marking his birthday each year by offering a handsome trophy to be awarded for a written composition, a photographic production, or a scientific or mechanical attainment. Mr. Simson suggests further that the Photographers' Association of America should take this up; that every moving picture theater be requested to show a portrait of Daguerre on that day; that newspapers and magazines be requested to call attention thereto by publishing a commemorative article, and that every photographer display a portrait of the great inventor to whose creative brain they owe so much. The suggestion is certainly an excellent one and we trust that the reports of the National Convention will show, as they reach us, that action was taken upon Mr. Simson's suggestions.

The Eastland Disaster

One of our occasional contributors, Mr. Smallwood, writes that four photographers in the employ of the Western Electric Manufacturing Company, namely, F. A. Doberman, Leslie Simmons, Mr. Garner and Mr. Gunderson, the latter an expert blue-print worker, lost their lives in the Eastland catastrophe. He says that they could no doubt have saved their lives had they thrown aside their cameras and equipment and swam for

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shore when they should have done so, instead of clinging to their instruments; and, when too late, finding escape impossible because there were so many, mostly young women, in the water, who, unable to swim, clung to them and pulled them under.

Mr. Smallwood says that this excursion is scheduled for the latter part of July each year, that the same boat has been used heretofore and always found perfectly safe. He thinks that the blame can be attached only to the people, who, distributed on the three decks, all rushed to one side at a time when the twin screw propellers were not operating. There is, of course, a certain amount of logic in this view of the matter, but we hardly feel that such an explanation would justify the lack of necessary precaution to avoid the consequence of a lot of pleasure seekers doing this very thing when the occasion arose, they quite naturally not knowing that so doing endangered their lives.

New Cooper Hewitt Lamp

The new M-Shaped Tube Cooper Hewitt Lamp for photographic enlarging would seem to be an ideal outfit for that purpose, as this new form of the tube is such that the illumination is evenly distributed over the field, giving an effect practically similar to that of a window of artificial light. This enables one to use this excellent form of light without cutting the illumination down by interposing an undue number of ground glasses in order to secure proper diffusion. The lamp of course has the characteristic advantages of other types of the Cooper Hewitt outfit, in this that it is perfectly steady without any flicker or variation, and of course requires no trimming or other attention. Photographers interested in an ideal light for enlarging should write for Bulletin No. 61, addressing the Cooper Hewitt Electric Company, Eighth and Grand Streets, Hoboken, New Jersey.

Some Artistic Enlargements

There are on exhibition in the Photographic Division of the Palace of Liberal Arts at the Exposition a collection of very fine prints and enlargements on Artatone, a developing paper coated on hand-made Japanese tissue. Despite the transparency and beauty of these prints, the paper is so strong in fiber that not the least difficulty whatever is experienced in manipulating it in the pro-

cess of developing, fixing and washing. With this paper one can produce rich and striking tone effects by the simple expedient of placing one or more delicately tinted colored papers beneath it in mounting. The softly blending lights and shadows that are produced by the velvety surface of the print give artistic qualities much resembling those of an etching. In our front advertising section will be found a new announcement covering either prints or enlargements on this paper, and our readers should not neglect to send one of their favorite negatives for one of these prints. We feel quite sure that our readers will be more than pleased with the results, as these prints are being made in the laboratory of the manufacturer of this beautiful printing paper. Mr. Jacobson is taking this method of bringing the exceptional beauty of these prints to the notice of the photographer in order that a larger number may become acquainted with its particular merits. Visitors to our Exposition should not fail to look up the collection of prints there shown, and in no case should this offer of Mr. Jacobson's to make a print or enlargement in his own laboratory be overlooked.

Two Interesting Booklets

Two very interesting little booklets have reached us, one entitled "Goerz Lenses" and the other "Goerz Cameras." The first abounds in reproductions of excellent and unique photographs that will interest any photographer, and the first two dozen pages are given over to a most instructive discussion of the different qualities that go to make up a high-grade lens and very full and clear explanation of many of the somewhat confusing terms used in the ordinary brief description of lenses. This information should be in the hands of all photographers, and our readers should not fail to send for a copy of this booklet. The other is also well illustrated but is devoted to an exposition of the merits of the several very fine small cameras manufactured by the Goerz Company. Copies of both of these can be obtained upon request by addressing C. P. Goerz American Optical Company, 321½ East Thirty-fourth Street, New York City.

Illinois College of Photography

J. R. Campbell, of 1907, made the College a visit the past month. He was on his return from the University of Illinois, where his son took part in the graduating exercises.

NOTES AND COMMENT

The Bissell Colleges recently held a picnic at Lake Kanagga and an enjoyable time was the result. Swimming, boating and other athletic sports, including a baseball game between the men and one between the ladies, caused a great deal of merriment. Of course, the refreshments were unequaled, both as to quality and quantity.

Assur Colors at the Exposition

Schering & Glatz, of 150 Maiden Lane, New York, have a very interesting exhibition of Assur-colored photographs at their booth in the Palace of Liberal Arts at the Panama-Pacific International Exposition. The unusual merits of these colors have arrested the attention of professional and amateur photographers from all parts of the country. Before the introduction of Assur colors, a coloring of emulsion-coated papers was a rather difficult accomplishment, but as these are neither water nor oil colors, the sizing or other proportion of the print before coloring is not necessary. Assur colors are absolutely transparent, go on smoothly, mix without muddiness, dry quickly, are absolutely permanent; and, if found necessary, the work done, or any part of it, can be removed without the least injury to the print. It will, in view of these facts, be seen that the defects and difficulties of other methods of coloring are entirely avoided by using Assur colors. The beauty and artistic quality of the results secured, combined with the ease and simplicity of their production, have created the most favorable impression upon those who have been fortunate enough to see one of these demonstrations that are being given by Mr. Voetter at the Exposition. We can assure our readers that only a very little practice is required to enable one to accomplish the most pleasing and satisfactory results, and they should not neglect to look up the firm's advertisement in this issue and write for a descriptive pamphlet.

Mountings of Quality

H. A. Stone, of the home office in Philadelphia, has been here since the early part of the year, devoting his time and energies to the establishment of the well-known Collins line of mountings here on the Coast. His efforts have met with most gratifying results, and the making of the Zellerbach Paper Company and its various branches, distributors for the line on the Pacific Coast,

has had much to do with the success achieved. The Collins line of mountings is even better than heretofore; the prices, particularly in connection with the high quality, are most inviting, and the service afforded by the splendid organization of the distributors, the Zellerbach Paper Company, leaves little to be desired by the photographer who wishes to turn out his work in the best possible manner. The firm's announcement appears in our front advertising section and our professional readers should lose no time in getting in touch with the nearest branch of the Zellerbach Paper Company by sending in a request for a catalogue and samples covering this line.

Celebrates Eighty-Fifth Birthday

The *Rochester Democrat and Chronicle* of July twenty-sixth devotes considerable space to a well-merited appreciation of John J. Bausch, president and founder of the Bausch & Lomb Optical Company, who was honored by a testimonial from the two thousand five hundred employees of the firm upon the eighty-fifth anniversary of his birth. Mr. Bausch was born in Suessen, Wurtemberg, Germany, July twenty-fifth, 1830. After serving an apprenticeship with his brother, an optical worker, he came to this country at the age of nineteen. Failing to interest opticians here, he took up wood burning, and later opened and conducted a photographic studio. In 1853 the foundation of the Bausch & Lomb Optical Company was laid by Mr. Bausch engaging in the manufacture and sale of optical goods in a small shop in the Reynolds Arcade. Although well advanced in years, Mr. Bausch is at his desk every day and takes the same interest in the great plant as when the business was in its infancy. The tribute presented by the committee took the form of a handsomely bound autograph book prefaced by a well-worded salutation, carrying the signatures of the entire two thousand five hundred employees. Mr. Bausch's response consisted of a card placed in each pay envelope announcing his contribution of ten thousand dollars to the pension fund and a like amount to the relief fund, two enterprises carried on by the firm to afford pecuniary aid to employees incapacitated by age or sickness. The card also announced that Monday, July twenty-sixth, would be a holiday with full pay.

CAMERA WANTS

Advertisements of the above nature shown below will be inserted under this heading at the rate of fifty cents each insertion, for twenty-five words or less; each additional word, two cents extra, cash with order. Those of positions wanted inserted free. No business advertisements accepted.

FOR SALE Commercial photographic studio and work rooms in San Francisco, fitted for all classes of work. Large operating room, two developing rooms, 2 bromide rooms, printing room, copying room, etc., etc. Reasonable rent, centrally located, facilities for large business. Address C. G., care "Camera Craft," San Francisco, Cal.

FOR SALE A first-class, ground-floor studio, Central California, doing a good business. Will sell for \$900.00 cash. Will bear strict investigation. Address California, care "Camera Craft," San Francisco, Cal.

STUDIO FOR SALE Well equipped and well work rooms arranged, in best shopping center of Oakland. My clientele is most appreciative of high-class photography. Address Box 15, care "Camera Craft," San Francisco, Cal.

FOR SALE Ground floor studio located at Oxnard, Cal., in a rich farming valley with a population of 3,500 to 4,000. 6 other towns to draw from. Doing a good business; reason for selling, going East. For further particulars address W. E. Detrick, Oxnard, Cal.

FOR SALE 8x10 Ross Homecentric lens f-8, 12-inch focus; never used; cost \$76.50, will take \$50.00 cash. Also 11x14 Improved Seneca View camera with extra rubber bellows, 2 holders. Landstrom Studio, Bakersfield, Cal.

PHOTO SUPPLY Business in San Francisco for sale. Has Eastman Kodak agency. Long lease and low rent. Will sell half interest or entire business. Address Box 40, care "Camera Craft," San Francisco, Cal.

FOR SALE Best studio doing best business in the best 45,000 population town of the Pacific Coast. Owner engaged in another profession to which he wishes to devote whole time. Business can easily average \$400.00 per month. A snap at \$1,000.00 cash. Address 326 Holland Bldg., Fresno, Cal.

GROUND FLOOR Photo studio for sale. Must sell on account of business in Alaska. Address 163 San Carlos Ave., San Francisco, Cal.

PHOTO SUPPLY and Novelty business, well established and located at one of the prettiest beaches of Southern California, is for sale. Good reason for selling is so urgent that \$900.00 will buy, while actual value of \$1,200.00 is in sight. Absolutely nothing like it on the market for the money. Do not take my time if you do not mean business. Address Postoffice Box 1344, San Diego, Cal.

FOR SALE 6½x8½ Empire State camera, 6 plate holders, No. 15 B & L. VII A lens in Compound shutter, leather carrying case. Good as new; \$140.00. T. T. Suey, 941 Commerce St., Tacoma, Wash.

FOR SALE Ground-floor studio in northwestern Washington, population 4,000; central location, brick building, reasonable rent, long lease, good business, invoice \$1,000.00. Will let go at a bargain. Address G, care "Camera Craft," San Francisco, Cal.

FOR SALE New Eastman 1A Speed Kodak, focal plane shutter, Zeiss anastigmat lens, price \$57.00; a bargain at \$40.00. Will ship by express C. O. D. subject to examination. H. S. Dumbolton, Rockford, Iowa.

3A GRAFLEX Box in good condition, equipped with 5x7 Dagor, carrying case. Sale or trade. McKay Art Company, Missoula, Mont.

BARGAIN One Banquet camera outfit, including 10x16 camera fitted with Goerz Dagor lens f-6.8, series III, No. 4, in Sector shutter, 2 holders, 9-foot tripod, 6 bags complete, 100 feet of wiring. All in good condition, price reasonable. Address T. H. D., care "Camera Craft," San Francisco, Cal.

FOR SALE No. 9 Zeiss Portrait Unar lens, like new, \$100.00 cash. 3A Special Kodak Zeiss anastigmat f-6.3, almost new, \$48.00. Jacob Wirtz, 612 West Lake St., Minneapolis, Minn.

FOR SALE Cheap, 5x7 triple-extension camera fitted with f-6.3 anastigmat lens, 7-inch focus; also 3½-inch developing film tank. For particulars apply F. Stear, Ft. Atkinson, Wis.

FOR SALE Artistic studio doing good business and first-class work. Address L. M. P., care "Camera Craft," San Francisco, Cal.

FOR SALE Up-to-date studio established 30 years in Central California town of 5,000 population and thickly settled surroundings. All-the-year-round steady business for good, energetic workman. For particulars address H. C., care "Camera Craft," San Francisco, Cal.

FOR SALE 3B Dallmeyer No. 2 1B Goerz 4x5 Slaytex with 24 holders and New York camera and stand. Bert Hodson, 811 K St., Sacramento, Cal.

SALE OR EXCHANGE Owing to poor health, my two ground-floor studios and six-room cottage in Oregon; for studio and property of like value in Southern California or Arizona. Address A, care "Camera Craft," San Francisco, Cal.

TO TRADE Have \$250.00 violin outfit; will trade for 5x7 Graflex and lens or 5x7 Protar D set and shutter, or what have you? W. H. Storey, Nampa, Idaho.

PARTNER WANTED To buy half interest or work on shares with privilege of buying. Must be experienced, all-round photographer. Studio fully equipped and located in prosperous California town. Address C. C. F., care "Camera Craft," San Francisco, Cal.

PHOTOGRAPHER WANTED An all-round photographer for studio and outside work for San Joaquin Valley studio to work on shares. Address Box 22, care "Camera Craft," San Francisco, Cal.

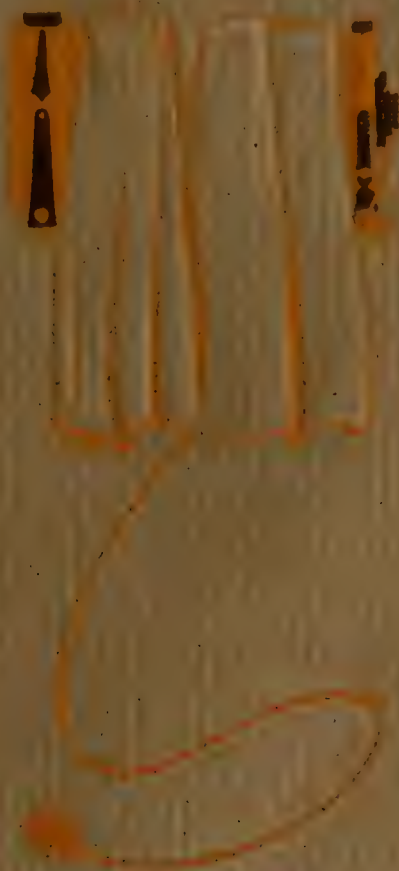
SALE OR RENT A studio in a town in the San Joaquin Valley of about 16,000 population. Box 22, care "Camera Craft," San Francisco, Cal.

FOR SALE Studio in the finest valley in Oregon. Equipped 11x14, good business, other interests, town 3,000, electric lights, water, phone. Particulars H. C. D., care "Camera Craft," San Francisco, Cal.

LENS BARGAIN Goerz Dagor lens No. 4, 6½x8½, 9½-inch focus in barrel with iris diaphragm, perfect condition, lists \$75.50; \$37.50 to first applicant. Address Room 8, Hotel Organ, corner 14th and Valencia, San Francisco, Cal.

POSITION WANTED By young lady of six years' experience in photo studio. Can do any studio work except retouching, but am willing to learn. Amateur developing and printing a specialty. Address Martha H. Doepke, 204 Dunn St., Portage, Wis.

CAMERA CRAFT



SAN FRANCISCO
CALIFORNIA.

A good print, like a good negative,

is the result of soft, progressive gradations, which interpret correctly in mono-tint the light and shadows and color values of the subject.

Whether black or sepia is a matter of individual preference.

CYKO is the only photographic paper that produces good prints, *both* black-and-white and sepia.

CYKO standardizes print quality in either black or sepia tones.

CYKO, by the way, is the only paper that produces the true sepia—Vandyke brown.

Send for a Sepia Chart
It is yours for the asking.

AnSCO Company

Binghamton, N. Y.



MOTHER AND CHILD
By BIANCA CONTI



CAMERA



CRAFT



A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor

CLAUS SPRECKELS BLDG.

SAN FRANCISCO

CALIFORNIA

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No. 10

Selling Photographs To Publications

By Lewis S. Todd



With Illustrations by the Author

About six years ago I devoted considerable work, energy and postage to an effort at selling prints to such magazines as *Farm and Home*, *Agricultural Epitomist*, *Collier's Weekly*, *The Country Gentleman*, and the like. While my success was of the most meager description, I continued my efforts for a year or so, believing that there was money to be made in that direction, as I had received from three to five dollars for each of the few prints accepted. I had almost given up the idea, having a feeling that in some way I did not know the market, when I ran across an advertisement of the book, "Cash and the Camera," in the pages of *CAMERA CRAFT*.

I did not expect much for my money, and, when the book arrived, I thought even less of it than I had hoped. However, I decided to investigate, and it seemed the list of about forty buyers of photographs might be of some value. After each publisher's name was a clear statement of just what the editor wanted and the price paid for accepted photographs. The interest aroused resulted in my giving the book a most careful reading, after which I decided that the author certainly knew how to sell photographs to publishers, else he could not so clearly set forth all the details and requirements that entered into the making and selling of prints to the various magazines and other publications.

Acting upon the advice given, I sent three 7x9 prints to *Farm and Home* with the result that they were accepted by the editor, F. L. Petty, who wrote and asked if I had any more equally as good. I replied by sending him eight or ten other prints, of which four were accepted, the remainder being promptly

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returned. Through this initial success I learned that by going about it in the right way I could sell prints where I had failed before, for the simple reason that I was no longer trying to sell an editor something for which he had no use. I also found that the demand for prints of the right kind was far too keen to permit of the real market being oversupplied, as my former poor success had suggested might be the case. I discovered that every editor had his desk littered with pictures that were to him so much rubbish simply because they were not what he wanted or what he could use. The result of this situation is that when an editor does receive a batch of pictures from one who has some knowledge of what is wanted, there is joy in that particular editor's heart and the photographer is quite substantially rewarded for his work.

Photographs that are accepted by the usual run of publications seem to quite naturally fall into two classes, namely, pictures that can be used to illustrate stories and poems, those suitable for cover designs, advertising displays and the like, as well as pictures of subjects that are curious and interesting. In the same class belong pictures of cattle, birds, insects, in fact, animals and plants of various kinds, together with good pictures of outdoor life, hunting, fishing, athletic sports and things of that kind. The second class is composed of photographs having a news value. This comprises pictures of fires, explosions, wrecks, floods, hurricanes, ship launchings, cornerstone layings, and a thousand other subjects that will readily suggest themselves to any one. We might add a third class devoted to pictures that are in demand by scientific and technical journals, such as views of models, inventions, new machinery, in fact, subjects of that class. Just what is wanted can be best determined by a careful inspection of a few copies of such publications.

The truth of the matter is, about the best advice I can give my reader is to carefully study the illustrations in his own town papers, the leading farm papers of his State; in fact, he should give attention to any publication using reproductions of photographs for illustrations. By studying them, I mean giving careful consideration to the kind and character of the pictures that are used, trying to form an idea therefrom as to what will be most acceptable. Should photographs of an accident or event of interest be secured, one should at once send them to the leading daily paper; and, in the case of a Grangers' meeting, county fair or a demonstration of some new method or machine for seeding, plowing, harvesting, or the like, send the pictures to the editors of the farm papers.

A few years ago nearly all of the magazines used reproductions from drawings for their cover designs and the illustrations embodied therein. Such drawings cost the publishers all the way from fifty to five hundred dollars, and there is no reason why a live photographer with an appreciation of what is wanted cannot become a strong contender for the honors in this field. One should at all times be on the lookout for something suitable. In addition, one should also try to work out ideas for pictures of this kind; and then, when the opportunity presents, secure good negatives thereof.

Having only a small camera should in no way be considered a handicap. Besides being handier, the small camera permits of securing more depth of focus

SELLING PHOTOGRAPHS TO PUBLICATIONS



ILLUSTRATING SILO CONSTRUCTION—The first shows a cypress silo which lacks the neat construction of the other pair shown. The next picture shows the building of a concrete block silo, the blocks being 3x12x30 inches, having a three-quarter inch tongue and groove, which makes a watertight joint. This form of silo can be erected to any desired height and when completed is as solid as reinforced concrete. The last picture shows two such, one having its galvanized sheet steel roof in place, the other being open for filling.

with a stop that allows rapid exposures than does a large camera. Enlargements from small negatives answer every purpose, if the negative be a good one, and 6½x8½ and 8x10 are excellent sizes. Very frequently you will be surprised at the improvement in quality of the 8x10 enlargement over the small contact print of 3¼x4½ or 4x5.

Prints must always be mailed flat. This is imperative. If rolled they are too difficult to handle, and few if any editors will give pictures received in that condition any consideration whatever. On the back of each print place the title of the picture together with your name and address, and numbering each one consecutively; and, as Mr. Dudley says: "Have a neat rubber stamp made for use for this purpose. Do not set up your name and address from one of the cheap outfits on the market; it looks cheap. For thirty cents you can have a solid stamp made, one that really looks like business. You are working on a business proposition from start to finish, therefore do not neglect even the smallest details. Many times the small details are more important than seemingly large ones." A good form of stamp is really cheaper, in the long run, than the seemingly cheap ones sold by the five and ten cent stores. It should read:

Print No.from
LEWIS S. TODD
Box 87, Plainwell, Mich.

On a separate sheet of paper place these same numbers and give after each any information you may have that might be of interest in relation to the several photographs, as so doing will give the pictures an added value to the editor. The photographs, this information sheet and sufficient postage for their return, should be enclosed between strong corrugated or heavy cardboard and forwarded under first-class postage. While the photographs could be sent as third-

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class matter and the memorandum sheet mailed separately at letter postage, I find it does not pay to separate the two. They rarely reach the editor's desk at the same time and this detracts from their chance of acceptance. In the case of news pictures, I make it a practice to send prints, together with the necessary memorandum, to two or more editors in different cities, not only paying first-class postage, but adding a special delivery stamp as well. This is for the reason that the first print that reaches the editor is the one that is almost invariably used, it being immediately rushed to the photo-engraving department in order that there may be no delay. Editors of large dailies make quick decisions and rarely change their minds. I used to think that they were born without hearts, but I have found they are not only well supplied in that direction, but they generally have a good, fat purse at their disposal.

In furnishing information concerning any picture, it is advisable to let the work speak for itself and avoid entirely any explanation as to how the pictures were taken or why they are not just as they should be. The editor is not at all interested in the difficulties which you may have met and perhaps overcome in taking the picture, but what he wants is complete data covering the subject. I find something like the following concerning an imaginary automobile accident is about what is wanted:

Editor, *Brownville Herald*,
Brownville, Michigan.

September 10, 1915.

DEAR SIR:

Enclosed find photographs of an automobile accident that occurred two miles north of Jackson at two-thirty p. m. today. Mr. John Waltern was killed, his wife badly injured and the auto a complete wreck. The accident was caused by the breaking of the steering rod on the left side of the car, as it was running at high speed on the Bender Fill, where the accident occurred. The car became unmanageable, ran down the side of the embankment and turned over, catching Mr. Waltern underneath. Mrs. Waltern was thrown clear of the car and was picked up and taken to the Perry Hall Hospital at Jackson by another automobile that was following close behind.

Yours respectfully,

LEWIS S. TODD.

Any of my readers who may be interested in this line of work can get a good list of newspapers, magazines, and other buyers of photographs both in Mr. Dudley's book and in another book entitled "One Thousand and One Places to Sell Manuscript," published by The Editor Company, Ridgewood, New Jersey, the latter selling at the price of one dollar and sixty-two cents, postage paid. These books give many valuable suggestions, and the proceeds of a couple of good prints will pay for both of them. With the information afforded by these two books, any worker of average capacity as a photographer and a little ability to appreciate what is wanted should be able to add materially to his income by selling pictures to publications of various kinds. Not only will the editor of CAMERA CRAFT be glad to advise as to the merits or otherwise of pictures that one may contemplate submitting, but, if any reader should care to write me, enclosing postage for reply, I will do the best I can to assist them in the work.

If your camera is smaller than 5x7 or if the important part of the subject

SELLING PHOTOGRAPHS TO PUBLICATIONS



A LOCAL EVENT—A Lecture on Alfalfa Culture.

is smaller than that, make enlargements of about $6\frac{1}{2} \times 8\frac{1}{2}$, 7×9 , or 11×14 , and be sure to use a glossy surface paper, for it reproduces better. If the negative requires a hard paper for contact printing, use hard for enlarging; if normal for contact, use normal for enlarging, and so on. Suitable trays for enlarging should, of course, be on hand so that, should one secure a news negative, one of a fire, flood, wreck or the like, he would not have to hustle around and get the trays before doing the enlarging. A fair enlargement of the 8×10 size or smaller can be made with a No. 4 Eastman Brownie Enlarging Camera, but a first-class enlarging camera with condensers for negatives 5×7 or under is now marketed by the Simplex Photo Products Company under the name of Multiflex Enlarger, and an enlargement of any size can be made with it.

Remember, news items rapidly decrease in value each hour the photograph and information are delayed in reaching the editor. A saving of time and work can be made by any one using the following method: Have enlarging trays, enlarging lantern, paper, etc., on hand and in first-class working condition. Use



ANOTHER VIEW —A Lecture on Alfalfa Culture.

CAMERA CRAFT

the regular acid hypo fixing bath and have plate and paper developer made up in concentrated solutions all ready for use except for diluting with water to the required strength. Also, a thirty-two ounce bath of "Hypono" advertised in CAMERA CRAFT by Allison & Hadaway, New York. The speed developer that I use for negatives is made up as follows:

No. 1: Water	8 ounces
Sulphite, anhydrous	1 ounce
Pyro	90 grains
Metol	90 grains
Potassium bromide	20 grains

This should be kept in an amber glass bottle to prevent effect of light on the pyro in solution.

No. 2: Water	8 ounces
Carbonate soda, anhydrous.....	1 ounce

For use, add one-half ounce each of numbers 1 and 2 to six ounces of water, at sixty-five degrees Fahrenheit. Development should be complete in two and one-half to three minutes. This works equally well on plates and films of the various brands I have used. In my own work I find the Marion Record a speedy plate of fine grain, having non-fogging and other desirable qualities. Most films are of the same speed excepting Eastman Speed Films, which are about one-third faster than the other makes. The Hypono is used by mixing one-half ounce in one quart of tap water, following directions given on the bottle.

Now, the idea being to secure, from an undeveloped 5x7 or smaller plate, an 11x14 enlargement and get it to the news editor as soon as possible after making the exposure, proceed as follows: Light the ruby lamp and fill fixing bath tray from stock solution, not neglecting to wash hands free of hypo. Fill negative rinsing tray, prepare plate developer and close dark-room door to exclude all actinic light. Develop negative, rinse in clean water, and place in fixing bath; next, while negative is fixing, put away the small trays that are no longer needed and put the larger ones for enlargements in their place. Place Hypono solution in an enameled or glass tray and as soon as negative is fixed, give it a thirty or forty second rinse in running water and place therein for three minutes, then remove and wash for a like period in running water or give three or four changes in clean washing trays. Wet a piece of clean cotton, squeeze out and mop off all free water, being careful not to rub too hard, for the emulsion is quite tender while wet. Finally place negative in a cool breeze or four or five feet in front of an electric fan to dry.

While the negative is drying, get the enlarging lantern ready, also paper, paper developer, and the paper fixing bath, the latter in their proper trays. The plate being ready by this time, make a good enlargement, rinse, and place in acid fixing bath. As soon as fixed, again rinse and treat as advised for plates, finally placing it between clean blotters, not the cheap kind, but the ones specially made for this purpose. Run a squeegee roller over the top blotter, take print out, transfer to dry blotters, and squeegee again, take prints from between blotters and place on your regular cheese-cloth drying frame, and place frame and print

SELLING PHOTOGRAPHS TO PUBLICATIONS



THOROUGHbred POLAND CHINA BOAR AND EIGHT REGISTERED SOWS—Used for breeding purposes only, the product sold to other breeders.

where the negatives were put to dry. Now prepare a letter to the editor, get cardboards, wrapping paper and stamps all ready, and as soon as the print is dry, place between the cardboards, wrap up in neat package, tie with cord or seal with adhesive paper tape, address it, weigh it, and put on the package, in addition to letter postage, a special delivery stamp, taking or sending it to the post-office at the earliest possible moment. One can then clean up and be ready for the next job, satisfied that the negative has been made and a print sent to the



DRILLING OATS—A print used to illustrate an article on farm work.



MY THIRTY-TWO DOLLAR PICTURE OF PIGS

editor within an hour and a half after the event or accident occurred. Of course, pictures falling into another class do not require the same prompt action.

With this I am sending a number of pictures that have given me cash returns, the one of the family of pigs having netted me exactly twenty-eight dollars from the magazines, not to mention four dollars from the owner for one dozen 5x7 mounted prints and a dozen post cards making a total of thirty-two dollars in all. The reader can see that there is nothing exceptional or unusual about any of these prints; in fact, ninety-nine out of a hundred of my readers could no doubt find even more salable subjects in their own immediate vicinity if they are on the lookout for them.



Organizing A Camera Club

By Sigismund Blumann



The Editor has requested me to set down what I know concerning the organization of a Camera Club and to put such advice as I may be impelled to give in succinct form. I can do that without writing an article. What I know of organizing such a club leads logically to the briefest of advice—Don't do it. Leave it to others, and if it be left undone, do not worry. To the pioneer in such a movement comes all the expense, trouble, annoyance, blame and heartburnings, and none of the credit, profit, glory or pleasure. Put that money which must be wasted in a campaign for members, into a dark-room of your own; concentrate the energy and thought required to getting members and holding them together, upon your own work; invite your friends or even your enemies to come to your place and use your equipment, and you will end happier. Even pay their carfare, if you will be gregarious, and save money.

I am not pessimistic; merely truthful and brutally frank. I am not inclined to deal harshly with human nature or with that superhuman nature which goes to making the average photographer, amateur at least. But we must take human nature as we find it and deal with it accordingly.

ORGANIZING A CAMERA CLUB



SALMON JUMPING WATERFALL IN METHOW RIVER

By G. F. GREEN

At this dam, near Brewster, Washington, one can frequently see several of these fish in the air at one time, but they jump so quickly that it is very hard to catch them with a Kodak.

About this season, some two years ago, I conceived the notion that a Photographic Club was a crying need in my home town, Oakland. Such of my friends as were interested in photography were consulted and found sharing my idea. Promptly we advertised in *CAMERA CRAFT* that we were looking for residents in Alameda County who desired to join such a club; and, in the course of time, letters began to come in encouraging numbers. I provided a meeting place and a date was set for organization. Out of all the writers of letters, about a dozen showed up. We organized in a few minutes and spent several hours arguing over a name,—mistake number one. Mistakes number two, three, and up to forty, were that we debated and argued every point. Several charter members dropped out, and one, more candid than the others, gave as his reason for resigning that he had joined for photographic purposes, not to enjoy the privileges of a debating society.

We changed the name several times before one was finally agreed upon, we elected officers and we adopted enough by-laws, rules and restrictions to govern a nation or a reformatory. Then one of our number discovered that a friend had an empty flat that he would rent to us on a lease; and, with remarkable promptness, we took possession of an unfurnished apartment. The initiations and dues, three months in advance, just paid the first rental. We then found ourselves with ten members, a name, a complete equipment of by-laws, a scrupulously worded constitution, club rooms and a three-year lease. The empty rooms looked ominous and discouraging; but, as the member who had advocated the renting thereof assured us that when the public knew we were well organized and had established quarters, they would flock to our doors with initiations and advance dues, we felt better.

But we had to let the public know. So we had letter heads and envelopes printed for our secretary, and circulars for the waiting public. We also bought

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stamps. If any of the public came to our quarters, they did so quietly; and, seeing an empty house, as quietly went away. As no increase came in our income, we volunteered to furnish the place with cash out of our own pockets. This was unanimously voted for—no, not unanimously, for I dissented. I was president and foresaw that when it came to the point of laying out ten or twenty dollars apiece we should lose some of the few members we had. This really happened. Another candid person said he had not anticipated so great an expense, explaining that clubs already established and with complete equipments were cheap by comparison. Others, saying nothing, merely dropped out. Only six members remaining, and debating being still the order, I paid a year's dues in advance to console the landlord and resigned from office and from the club. The club held one more meeting and then disbanded.

The deductions to be made are obvious. Were I to try once more to get together a photographic fraternity, I should find a few fellows sincerely interested and persistently enthusiastic. I should arrange to have them meet at my home at regular intervals, should expect them to come, and would feel that each should ask his brother members to come to his home. I should fight against any debating, and any framing of laws before their need proved imperative. The dues should be saved until something in the shape of photographic equipment could be purchased, and new members would be carefully considered before being accepted. At no time is the personality of an associate so important as when a few fraternize. One disagreeable or uncongenial person easily looms big enough in a small group to disrupt even old friendships, not to speak of the precarious relationship of an embryo club. When the equipment became so complete and the treasury rich enough to warrant it, I should then propose renting very modest quarters. Then the time should have arrived for a campaign for new members. But be it emphasized that the first fifty members, at least, must be most carefully selected. After that figure is reached, a club resolves itself into a more or less commercial proposition anyway. A trouble maker or an impossible gets lost in the mass and groups and cliques are bound to form, spontaneously. When the club grows out of being a private affair and into a public concern, I should push a campaign for more members to its utmost and get the money. The treasury is now the one consideration. The rooms and equipment and all the activities become of an advertising nature. And, of course, the better that equipment and the more suitable the quarters are, the better the advertising value. Loan collections of prints, slides, and lectures will before this be offered, and should be accepted. Entertainments should be given at frequent intervals. And the ladies should be interested. Take in a man, his wife, his sister, his sweetheart and his relations and you will quickest get his friends.

But, speaking for myself, I shall never organize a photographic club, and if ever I join one, it shall be ready made and I shall strive to be its most obscure member. I shall seek the dark-room when I go to its quarters, and shall avoid the regular meetings with the greatest assiduity. For, you will have gathered, I have had a sufficiency of the business of organizing and ruling a camera club. And a sufficiency in a case of this sort is more than plenty.

Photography and the Indians

By J. Loranson



With Illustrations by the Author



THE PRIZE BABY

EARLY the entire twenty-nine years of my experience as a photographer has been spent on or near Indian reservations and many tribes of our aboriginal brothers have furnished subjects for my photographic skill, such as it is. Starting at Ashland, Wisconsin, in 1886, there were a large number of Indians located at Odena, a nearby town. Other tribes were met with in Minnesota and at Perry, Oklahoma, where I spent five years, the Oteos were strong in number. While at the latter place I was commissioned to photograph, by flashlight, what was said to be the first divorce trial involving an Indian couple. Today there are many such, the Indians learning the ways of their white brother quite readily. Unfortunately, they seem to acquire the bad habits, the use of strong drink being an example, with much more facility than they do the good. However, one must not get the idea that the

Indian is entirely bad. Reverend Stwire G. Waters, Chief of the Yakima Tribe, has traveled for many years as a Methodist preacher doing missionary work among the Indians of the Northwest. He lives, when at home, near Toppenish in the Indian reservation, where I have been located for the past six years.

Indians are particularly fond of photo jewelry and the photo button in particular, and I make as full a display of these last as my gallery will permit. The result is that they call daily in order to inspect the hundreds of made-up samples that I have arranged for their benefit. The men come in, find a picture of individual sweethearts, a sale is made and the button pinned on. Almost a rival to the button display is that made up of post cards showing pictures of individual members of the tribe, groups, and pictures made at the annual round-up, showing the field events, war dances and the like. This display fur-

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nishes a free show and one that never seems to lose interest for them. Asked to pose for a picture, they never refuse, and they are much better customers than one would suppose. I get many orders for large pictures ranging up to 16x20 framed, from my Indian visitors. They do not object to being photographed in the studio and are willing to pay for their pictures, but outdoors they protest and demand payment from the photographer when they do condescend to let him take a picture. They do not like the pictures made in the open, but are quite



A COWBOY RIDING A BUCKING BRONCHO AND AN INDIAN RIDING A WILD BULL
pleased with those taken before a background and having more of the artificial appearance of what they feel is the regular thing in portrait photography.

In this section there is held what is called the annual Indian Round-up, staged in regular circus fashion and lasting about a week in succession in each of the towns of Pendleton, Oregon; Walla Walla, Washington, and our home town, Toppenish, Washington. They are, of course, held in the open fields or Aerdome, and thousands assemble to view the Indian races, expert riding, buck-

PHOTOGRAPHY AND THE INDIANS



WILLIE SPENSER



ESTHER SPENSER



CHARLEY JOEB

ing contests, fancy roping, steer bulldogging and the like. Men's relay race, ladies' relay race, and like events add interest to the exhibition. Then there are the war dances in which large numbers of the Indians take part, all dressed in their regalia, singing their hoi-hoi-hoi-he-ho-he-ho in unison. Some of these costumes or regalia worn by the Indians cost many hundreds of dollars each. In the early spring the Indians have the round-up of their ponies on the open range and many interesting events take place, but these late summer shows are more in the nature of public exhibitions, the Round-up Company assuming the management and paying the Indians for their acting.

In the first years of these shows I found unlimited sale for pictures of the events made in post card size. Using a Graflex camera I was enabled to get pictures of many of the most interesting features, but a high speed is required,



FRANK



CHIEF STWIRE G. WATERS



MRS. AND MISS JOEB


CAMERA CRAFT



INDIANS WATCHING ONE OF THE EVENTS AND THE PARADE IN FULL REGALIA

from the three-hundredth of a second up to one-thousandth. The high speed of the animals and the dust that surrounds them when in action make it almost impossible to secure good pictures.

A picture is formed in the artist's mind before it makes its appearance on paper or canvas, and the real test of any medium is the degree in which it enables him to realize his conception. Now most artists find that this mental picture has to undergo some unintentional modification through the failure of the hand completely to carry out the instruction of the brain, perhaps in consequence of technical disability resulting from the quality of the medium. Artists are subject to such limitations, and to the character of the instruments that they are compelled to employ. They cannot wish their pictures to their canvases, but have to get them there as best they may by such means as are available. Hence few are able to realize their ideal absolutely, and sometimes one hears of those who have given up the attempt in despair.—ANTONY GUEST.



His Majesty, The Movie

By Scott Leslie



With Illustrations by the Author

The scene is all prepared, the actors rehearsed, the camera is ready. The director sees that all is to his liking, when he calls out, "Camera," and the merry click of the instrument is heard. Every click of the camera means that eight pictures have been taken, and there are two clicks every second. The whole sixteen pictures have been taken upon a single foot of film; sixty feet of film used in one minute, and nine hundred and sixty separate and distinct pictures made.

With the great popularity of the moving picture comes the desire to every lover of photography to own a moving picture camera in addition to his present equipment. If you can afford it, all right; but do not overlook the fact that the little movie camera "eats up" a foot of film every second. Then, of course, there is the expense of the reproduction. Not like making a print upon a piece of paper, but the reproduction, or positive, must be made upon another strip of celluloid film of equal length to the negative.

Small moving picture cameras can now be purchased at a cost but little in excess of that of an ordinary camera. Many firms will take your negative film, develop it and make therefrom a finished positive film in twenty-four hours, and this work they do at a very reasonable price. A home projecting machine can be purchased at about the same cost as the camera. Set the projector up in your parlor, attach it to an electric light socket and the delight of seeing your friends or loved ones in lifelike motion is so great that it is easily worth the extra expense, if you can afford it.

Really, I believe it is much easier to make a good motion picture than it is to secure an ordinary photograph. There is little or no "posing" needed. The baby is playing on the porch or out on the lawn. The camera is brought out and the crank turned. You call to baby, it looks up, laughs and waves its little hands. You have caught poses that would have been practically impossible with any other kind of camera. Father, mother, the whole family, walk about, talk or play. The little camera registers every movement upon the long strip of celluloid and makes them immortal. The little ones grow up and can see themselves just as they were when babies. Loved ones pass away and still we can sit and watch them, not in the stiff poses of the ordinary picture, but just as we remember them in life. In addition, the small negatives made by the moving picture camera are so perfect that, should one wish to have some particular pose as a picture, that one particular negative of the series can be enlarged and mounted the same as any ordinary camera production.

Then there are a great many ways of making one's moving picture camera pay for itself, the same as with other cameras. Suppose something happens in

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your city that is of national interest. Take a few feet of it and submit it to one of the several companies that get out the moving picture weeklies. If they accept it, they will pay you a good price. However, do not expect them to take any and everything you may send in, as they have thousands of feet of film submitted to them each week. They cannot buy it all, but select that which appears to them as being of the most general interest.

Then there are your local events, parades, picnics, weddings, and the like; all interesting to the home folks, who like to see themselves in the "movies." These pictures you can rent to the local theater, but be economical in film when making such pictures, for if too many feet are used the expense will run too high. The local theater cannot pay any great price for the rent of these films, as its returns are limited.

I have never found these local events added very much to the profit side of my ledger unless I was very careful to get all the good things on a reasonably small amount of film. The big companies who make photo plays can afford to place their films with the theaters at a small rental for the reason that they do not depend upon any one locality, but sell or rent them in duplicate, all over the world and for months afterwards. With a local event, the film is good only in the one city and after the one showing its usefulness as a revenue producer is practically gone.

If there are any large manufacturers in your city, or in your territory, quite a nice business could probably be worked up making moving pictures of their plants in operation. They would willingly pay you a fair price for pictures that would be of value to them and a great many of these manufacturers are now using the "movie" to quite an extent. Pictures along this line offer great opportunities for making money.

People have said to me: "I have written a scenario; why can't I make up the picture and sell it?" All I can say in reply to this is: "You can make it up all right, if you have the money; but to sell it—there's the rub." Fortunes have been made in the making of moving picture plays and more will still be made; but the day is gone when one could start in on a "shoestring." Today it requires great capital to establish a studio and turn out regular releases, as they are called. The day has faded into the distance when any kind of a photo play could be "framed up" and sold at a profit. Today the producer must have the right goods, as you well know if you are a patron of the picture theaters.

Then there is the outlet for your films. To make the production one must form a connection with one of the great exchanges that supply the theaters with their entire daily programs. In order to get the exhibitors to use a film, it must be something out of the ordinary, something that the proprietor is sure will increase his returns to an extent that will justify his laying aside one he has paid for as his regular program in order to use that particular film.

Some time ago one of these companies that make moving picture features was formed, the promoter telling of the great fortunes made in this line. I was asked to come into the new corporation and assist in the directing and camera work, of course putting in my equipment and taking stock in exchange. I listened to the glowing account of the money to be made, the fine scenarios

HIS MAJESTY, THE MOVIE



ILLUSTRATING THE USE OF THE PANORAMA—The first picture shows the boy in the water catching a horseshoe crab. We follow him along and in the second picture he is coming out on the beach. He picks one up from a pile in the third picture, and is seen close up in the fourth, while in the fifth a still closer view of the crab is shown.

on hand, the ideal location available, etc. Finally I asked: "But where will you dispose of your products?" "Oh! that will be easy," the promoter assured me. "All of the companies are looking for features." The company was formed, something like twenty thousand dollars was paid in, a studio was erected, professionals engaged, and three features made up. I did not join them, as I wanted to see where they were going to dispose of their product before I tied up my equipment.

The three feature films cost them about three thousand dollars each to produce and I must admit they were very satisfactory and compared favorably with the average feature films. However, when it came to selling them at a profit, no buyers could be found. Finally a man was sent out to "show" the big exchanges and succeeded in selling two of them at a loss of about one thousand dollars. That was the end of that company.

I am recording this simply to show that the photo play end of the business is fully stocked if not running over. Do not try to make that class of work, but stick to the commercial end if you want to make money with your camera. As I said before, if you can afford it, by all means add a moving picture camera to your equipment for it will bring you a greater degree of pleasure than could any other form of camera.

A great many people are perfectly familiar with the ordinary cameras, the developing of films and the making of prints therefrom, but they have no idea how the "movies" are made, how the films are developed, how these last are printed and what makes the pictures move. For their benefit, our editor being willing, I shall, in future articles, describe the origin of the moving picture, the dark-room process and "what makes it move."



A LOCAL PARADE

SKINNING AN ALLIGATOR

DEADLY STINGAREE



A Convenient Printing Frame

By Eugene H. Hardy



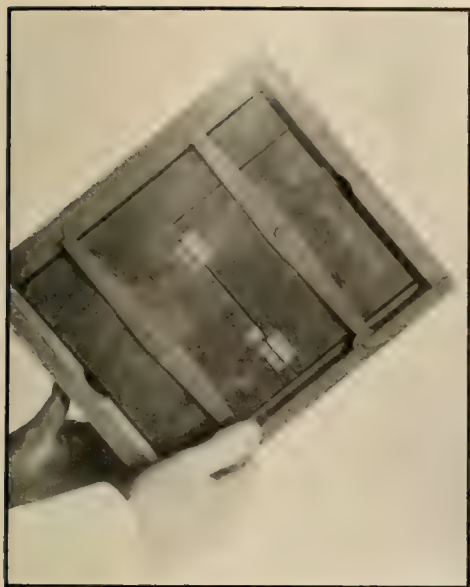
With Illustrations by the Author

It often falls to the lot of the photographer, particularly the view man, to have to make post card negatives with his $6\frac{1}{2} \times 8\frac{1}{2}$ camera, and make them on a full-sized plate. Most of the modern view cameras are fitted with a slide in the back that permits the making of two separate exposures on one plate. However, if one's camera is not so equipped, a piece of stout mounting board can be cut of such a size that it will spring tightly into place and cover one-half of the front opening in the back when the latter is removed from the camera for the purpose. If one wishes to go to the trouble, he can cut a shallow groove in the top and bottom of this frame and there will then be less danger of the card dropping out. By examining the back of one's camera it can be seen where this card should be placed to come just in front of the plate holder when the latter is in position in the back. The card, being just half the width of the opening, when at one side it permits the other end of the plate to be exposed in the usual manner, after which the back can be opened and the card slid along to the other side, ready for the next view to occupy the other end of the plate that was protected by the card when the first exposure was made.

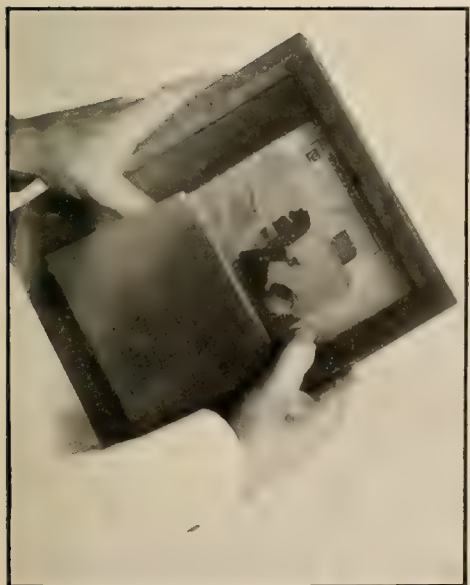
To make properly masked border prints from these negatives, I have devised or improvised a special frame such as is shown in the illustrations herewith and have found it a great convenience. To construct, take an old 8×10 printing frame, remove the springs and hinges and make a new back replacing the fittings as shown in the first illustration herewith.

The next illustration shows how the negative, a $6\frac{1}{2} \times 8\frac{1}{2}$ one in the 8×10 printing frame, is adjusted under the mask so as to print the desired portion immediately beneath the smaller opening in the new back. The mask in this particular case is cut from a printed sheet of fairly heavy colored paper that is opaque enough for the purpose. The printed matter shows plainly, as the paper happened to photograph as if quite white. To make the mask, cut an 8×10 piece of suitable paper, lay it on a clean glass in the frame, place the new back in position, and then, taking care that all three, glass, opaque paper and back, fit snugly into the lower left-hand corner of the frame, lock the spring of the larger piece and turn the smaller one back on its hinges. It is then easy to mark the paper intended for the mask so as to show where the edges of the sensitized card or paper will come in printing. All that is then necessary is to remove the mask sheet and in it cut an opening just far enough inside the pencil lines to give the desired width of white border all around the print. It will be noticed that the mask shown has a cut-out at each end, one for cabinet-size paper and the other for post cards.

A CONVENIENT PRINTING FRAME



The third illustration shows the back in position ready to receive the card. It will be observed that the opening in the mask was so cut that the card is to be pushed as close as possible against the two sides of the lower left-hand corner of the opening as shown in the last illustration. This frame will of course print post cards from regular 5x7, 4¼x6½ or 4x6 negatives equally as well as from the "doubled" 6½x8½ for which it was devised.





That Competition of Ours

By the Editor



With Illustrations by Our Readers

The prints, at this writing, are coming in in a most gratifying way, but our readers do not seem to have as many suitable negatives as we had hoped. One subscriber, an Iowa friend, in sending in what he had, wrote to suggest that if we could only tell our readers something definite as to what was wanted and do so before the competition closed, others as well as himself might be tempted to make negatives specially for this competition. To this end we have decided to postpone the closing date another month or two, and in so doing give our readers in this issue some of our own ideas, based on a few of the submitted prints, and next month follow with Mr. Potter's promised criticisms of another selection recently sent him for that purpose. We must, however, caution our readers that our own criticisms, offered below, should not be accepted as final, but should be taken merely as suggestive, looking for more particular guidance in the criticisms that will be made by Mr. Potter in next month's issue. We ourselves have never attempted to make suitable photographs or have we ever been called upon to select prints to be used as cover illustrations for farm publications; while Mr. Potter, in the capacity of managing editor of *Farm and Fireside*, has found it necessary to do the latter twice each month for several years.

Our readers will also bear in mind that while we may sharply criticise the prints sent in, our so doing does not detract from our keen appreciation of their kindness in sending in so many prints from such negatives as they happened to have on hand. They were asked to do so, and they responded in a most generous manner; and, while they all realized, no doubt, that what was sent was not just the work wanted, they would, as our Iowa friend explained, appreciate some helpful suggestions before making special negatives.

The first of the six prints reproduced herewith is lacking in interest, or rather, in any special interest. The horse is not a particularly fine one, the position is awkward, the rake is not of an improved or novel form, the man seems rather lacking in foresight in tempting a hayfield sun without a hat, and neither this particular crop nor the field in which it is grown suggests a high standard of farming. Even at best, such a subject would have no great claim upon the attention of the readers of a farm paper, but a much more acceptable picture could be produced with a little care in the matter of selection and arrangement. If one will turn back to the few examples reproduced in our August issue, they will find that an upright picture is required. As the rake is the key to the whole situation, it might be better were the picture taken from the rear. If the driver wore a broad-brimmed hat, the idea of haying sun and warmth would be better carried out. If a portion of a well-kept fence were included, the idea of a

THAT COMPETITION OF OURS

profitable crop would be conveyed, as would also be the case were close, heavy windrows shown to one side. In other words, with a sturdy, prosperous farmer, intent upon his work of using a good equipment in harvesting a bountiful crop from well-tilled acres, pictured in an upright form and the principal features of the scene kept clearly defined instead of confused with the branches of a tree, would make possible a picture which would have much to recommend it, we feel quite sure.

Taking the next one, we believe it comes the nearest of any of the six to being suitable for the purpose. An upright section cut from the center in such a way that the figure of the man came a little nearer the left side than to the



right and then enlarged, would have only one regret and that would be that so many of the fowls would be sacrificed in the trimming. This of course could have been avoided had the intention been to have given the picture an upright form when the negative was made by the simple expedient of scattering the grain or other feed more in the foreground and then, as the exposure was made, have the figure walk forward a little closer to the camera.

The third example is much the same in this, that another upright near the center would be quite admirable if enlarged were it not for one or two little details. The figure is looking at the camera instead of being interested in the animals before him, and the arrangement or grouping suggests that a little patience would no doubt have resulted in an improvement, the animal at the extreme right being badly placed besides making the group a little too extended for the upright form of picture wanted. The background is pleasing, as it is but a suggestion of more thorough fencing and cultivation, with perhaps farm buildings and the like in the distance, might be a decided improvement.

The fourth picture is another example of good material not used to the best advantage. An upright form of picture, the man busy at his work with the child either an attentive spectator or assisting by handing him nails or a small piece of board, and this would have been quite worth while. It is really surprising how persistently the photographer will sacrifice the interest he can give his pictures by having his subjects engaged in their obvious work or play, for the praiseworthy but hardly justifiable effort to give his subjects the pictures they want of themselves. If one must gratify his subjects in this respect, he

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should at least appreciate the injustice done the capabilities of his camera and make a second exposure with the figures arranged in such a way that they do not so plainly tell us they are posed before a lens. The cutting off of the feet of both of the figures is a serious defect, in fact, hardly excusable.

Our fifth picture is reproduced simply as an average sample of a large number sent in. We can imagine that this might prove worthy of a moment's attention from a city resident who had never seen a farm animal of this kind and a picture of one only rarely, but to the average individual interested in farming the picture is, it would seem, quite commonplace and uninteresting. Were the background formed by some improved form of feeding stall or the like, were the animals choice specimens of some particular breed, were the grouping better or were some typical curative or protective treatment being given, similar subjects could be used to produce a picture telling a story or conveying an idea. Let us suppose that a man in typically serviceable garb were engaged in applying a spray to protect the cow from the annoyance of flies. Well posed and rightly handled, a picture would result.

Our sixth and last has, as its greatest fault, the one already pointed out, namely, the subject more intent upon the camera than on the work or play in hand. The background has not been well selected, the exposure was not long enough to give soft shadows, and the small dog, with its stub tail lengthened out by some light object on the ground, serves no good purpose.

The above, it is hoped, will suggest to our readers a number of the most common shortcomings, or rather, a few of the mistakes that should be avoided in pictures intended for this competition. When Mr. Potter's criticisms come to hand, we will have still other faults pointed out, we may be quite sure. In some of the criticisms made we may be in the wrong, but we feel we have kept upon safe ground. We want, as we have explained before, to make this competition helpful to our readers; and, doing this, the actual closing date is really of no great importance. However, the suggestions to be gathered from the criticisms next month will enable such of our readers as feel so inclined to make a few special negatives. This will necessitate advancing the closing date to January first, which is positively the last postponement, as, there being a good supply of pictures on hand, it will be more advisable to announce a new or second competition should the present interest maintain.



PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

INEXPENSIVE TRIMMER: Large trimmers are expensive, so do not wish for one any longer if you have an old saw at hand or can get one easily. Among my friends afflicted with kodakitis I found a device that I have since copied, used with considerable satisfaction and believe it worthy of being passed along. This friend had the straight back of an old saw drilled and reamed for screw heads, screwed it onto the edge of a suitable piece of board, its edge out a little from that of the board. Then at right angles to the saw edge he nailed a piece of old yardstick. This gave him the cutting edge of the board with the scale at its head. For the cutting blade he took an old Christie bread knife, well sharpened. I ran across an old bucksaw blade, fastened its whole length to a nice board and have an edge that will cut a twenty-inch roll of bromide paper nicely. Usually I open out a pair of shears and use one of the blades for my cutter. It is just as fancy as it needs to be and it certainly leaves but little to be desired when it comes to delivering the goods.—C. R. Lowe, Nebraska.

AN EXCELLENT PLATE DEVELOPER: A developer which I have used for some time with the greatest satisfaction is compounded as follows:

A: Water	14	ounces
Elon	60	grains
Sulphite of soda.....	5	ounces
Pyro	1	ounce
Oxalic acid	15	grains
B: Water	14	ounces
Carbonate of soda.....	1½	ounces

For ordinary plates use one ounce of each solution to twelve ounces of water, adding two or three drops of a saturated solution of bromide of potassium. In copying, splendid results are obtained by using equal parts of the two solutions, omitting entirely or using but little of the water and bromide advised for regular developing. For copy work negatives one should use a slow plate such as the Seed 23.—F. H. K., Wisconsin.

AN INEXPENSIVE TRAY: I told you, a long time ago, that I would, and I did. I have taken a common dripping pan, melted some beeswax and rosin in the proportion of four of the former to one of the latter, in it, and run it over the bottom and well up on the sides. It made an excellent tray. You should not make the coating too thick or you will find that it cracks too easily; but, if it should get cracked, just melt the wax on the stove, run it over the bottom again and you have a new pan, water and acid proof where it is coated. Its chief objection is that it will rust on the outside and on the roll where the wax did not flow, but this will cause little or no trouble if you will wipe the pan with an oily cloth each time it is put away. No, I do not claim that this is

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better than an enameled pan of the regulation style; if you have the money, buy a steel enameled tray, one that will cost you three dollars and seventy-five cents. Mine cost me thirty cents and five minutes of my valuable time. I have used this for over a year, have made some thousands of prints, and have lost less than a dozen because of rust.—C. R. Lowe, Nebraska.

WORKING OLD PAPER: An extended cessation of photographic activities resulted in a stock of developing paper that had "run out" almost three years ago. Instructions in an old copy of *CAMERA CRAFT* sent me to the druggist for a ten per cent solution of bromide of potassium and one of cyanide of potassium. The proper procedure is to add a drop of each solution to every two ounces of developer and then make a test by immersing an unexposed strip of the old paper for about thirty seconds. If there is no sign of graying, prints will develop with the same good whites. If any graying, add a little more of each solution and make another trial. I found that my paper, nearly three years past date, required five drops of each solution to eight ounces of developer. Both solutions are restrainers, but they seem to be more effective when combined. In addition, by using them together one gets a degree of restraining that would result in green tones if bromide alone was used and in yellow whites were only the other employed. The cyanide is quite poisonous, but the developer contains only about one-fortieth of a grain to the ounce, so no trouble need be expected if the stock bottle be kept in a safe place.—A. J. T., California.

CIRCULATE AN ALBUM: One of the I. P. A. circulating albums came to me the other day; and looking it over was a pleasure, you may be sure. Yes, I had a picture or two of my own in it, but the flattering part of it was that I found myself in such good company. While the album has gone on its way, the pleasant recollection still persists and the following idea is one result it has achieved. I have a lot of prints gathered from Vermont to California, from Wisconsin to Texas. What am I to do with them? Make up an album, put it in the drawer and look at it once or twice a year? I have one such containing photographs of old college days, a collection that is the envy of my generation in those halls, at least many are kind enough to say so. Its contents were in good condition six months ago, for I looked at it then; and it is not lost, for I ran across it just the other day, safe in the bottom of a drawer. But what good is it doing there? What a scheme it would be to route it to some of the fellows who would enjoy it! True, there would not be any pictures in it which they themselves had made, but the I. P. A. member who says he is interested in anything interesting would appreciate such a book of prints. Why not try to route one of your albums, even though most of the work is your own? It looks like a feasible plan, and it will be a pleasure to you. One man, a professional too, was so pleased with an album which came my way that he offers to make up one similar and send it out. Happiness is as "ketchin'" as measles. What if the whole circle would adopt this plan? This last has been advocated before, but my plan is for one to take his miscellaneous prints, make up an album on his own hook and then send it out. There, Brother Fayette J., is an idea I have not seen in your esteemed magazine in my five and a half years' acquaintance. I am going to try it.—C. R. Lowe, Nebraska.

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A PHOTOGRAPHIC MONTHLY

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No. 10

Our Frontispiece This Month

It is with no little satisfaction that we reproduce Miss Bianca Conti's beautiful picture, "Mother and Child," the picture that was awarded the Medal of Honor in the Pictorial Photography Section, Liberal Arts Division, Panama-Pacific International Exposition. This picture was No. 23 in a list of one hundred and forty-eight, the work of forty-seven exhibitors. While the number of pictures is not large and the list of exhibitors not long, the exhibition is a most representative one, made up of examples of the best of present-day pictorial photography. While a few of the better known workers are not represented, the simple fact that awards were made, and made by an international jury, to pictures by those who have heretofore exhibited but rarely if at all, as well as to pictures by the better known pictorialists, shows that the jury of selection was not influenced by a desire to make the exhibit one of either numbers or of names. We do not believe that any exhibitor can be other than gratified at the company in which his picture is hung, and we doubt if any will find fault with the placing of the awards. Official public announcement covering the awards will be made later; and, when this is done, we hope to have, from a member of the Jury of Award, a few words on the subject that will still further confirm our own assurance that the exhibition is a noteworthy one, carefully selected and ably and conscientiously adjudged.

The Awards In The Pictorial Section, P.-P. I. E.

While the Jury of Award has completed its work, official publication is delayed until such time as the Superior Jury, after considering any protests that may be entered, makes its announcement, this last, we believe, to be done at the close of the Exposition. For that reason the list published below is put forth only as being based on the best information available to us, information furnished us by exhibitors who have of course been individually notified concerning awards made their own pictures. The list may be incomplete, it may be wrong in a few cases, and we trust that any exhibitor receiving an award not mentioned therein will feel assured that we have used every effort to make the list as accurate as possible.

Grand Prix: Annie W. Brigman; Collective Exhibit, Nos. 48 to 59.

Medal of Honor: Bianca Conti; No. 23, "Mother and Child."

Gold Medals: Henry Berger, Jr.; No. 89, "The City." Louis A. Goetz; No. 73, "California."

Silver Medals: Dr. A. D. Chaffee; No. 113, "Ammerschweier." Laura Adams Armer; No. 5, "The Sculptors." James N. Doolittle; No. 85, "Into the Darksome Wood." Percy Neymann, Ph. D.; No. 60, "Wooded Road at Pacific Grove."

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Bronze Medals: Henrietta E. Kibbe; No. 2, "Grandmother." H. A. Lattimer; No. 138, "Plowing." Edward H. Weston; No. 76, "Child Study in Gray." Francis Bruguiere; No. 37, "Colonnade, Court of the Universe." Karl Struss; No. 125, "Columbia University Heights." Florence B. Livingston; No. 84, "Snowy Day in Madison Square."

Honorable Mentions: W. E. Dassonville; No. 70, "Mission San Juan Capistran." Imogen Cunningham; No. 27, "On the River Bank." Nathan D. Chapman; No. 132, "Diagonals." Dr. D. J. Ruzsika; No. 117, "Interior Municipal Building, New York." R. S. Kauffman; No. 96, "Toilers of the Field." Bessie Meyer; No. 15, "Purity."

A Welcome Visitor

George F. Clifton, of New York, formerly of Denver, recently gave the members of the California Camera Club an exhibition of natural color lantern slides made by the Paget process of color photography. As Mr. Clifton's former visits here have brought him quite closely in touch with many of the members, the more than usually large attendance was both friendly and appreciative. Mr. Clifton, besides delighting those present with a set of exceptionally fine slides, explained the process, going carefully into the duplicating method, and answered a large number of questions put to him concerning both the Paget and other color processes.

The Genial Lindsay With The Ansco Company

Out at the Exposition, G. Archer Lindsay, late of the Anderson Photo Supply Company, can now be found explaining the beauty of the five thousand dollar most beautiful woman contest exhibited in the Ansco booth, as well as explaining the merits of the Ansco line. He is always either shaking hands with some old acquaintance of his traveling days or doing the same with one of his many new local friends, all of whom seem to enjoy the contagion of his genial smile and cordial goodfellowship.



A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

The Color Screen In Landscape Work

No one can be a photographer long without observing how very unsatisfactory at times is the way in which the camera renders objects of various colors. With the disappearance of color itself we are forced to put up, and are prepared for it; but unless special steps are taken this is not all. The relative brightness of objects, as distinct from their color, is not preserved. We may have a light object of a red and a dark one of a blue color, yet in the photograph the light one may appear the darker of the two. Yellow, which is the brightest of all the spectrum colors, is one of the darkest when photographed on an ordinary plate, and deep blue, on the other hand, is one of the lightest.

As every one knows, this can be remedied by the employment of orthochromatic plates and "color screens" or "light filters"; and it is the bearing of these upon landscape photography that forms the subject of this article.

The instances of untrue rendering just mentioned are extreme cases; neither yellow nor deep blue is a color which in an intense form is present in landscapes. The blue of the sky we have, it is true, but this is comparatively a light blue, at least in these latitudes; yellow we hardly meet with at all. On the other hand, green in its many shades, grays, and purples are met with in profusion.

Green is not so luminous a color as yellow, to the eye; but it will be found that some shades of green appear particularly dark in a photograph. Gray, the ordinary plate will deal with perfectly; purple, which is most often to be found in the distant parts of the landscape, tends to come too light. The most noticeable falsification of the tones will be found in the rendering of different shades of green, the strong contrasts between the light green of new foliage and the dark of old disappearing almost entirely, all alike coming out very dark in the print; and in the sky, in which the deep blue photographs

very nearly as white as the whitest clouds, so that contrasts in the sky are almost lost. The latter is not entirely a question of orthochromatics; exposure enters largely into it.

Orthochromatic plates may be divided into two groups—those which are sensitized for green and yellow but of which the sensitiveness to red has not been greatly increased, and those which have been sensitized for the whole of the spectrum colors, and are consequently known as "panchromatics." All the "self-screen" plates, i. e., those which contain within their film a dye which serves to some extent as a color screen, are of the former character, and may be considered as such, the effect of their self-contained screen being regarded separately.

Judged from a superficial glance, there is no great need in landscape work for a panchromatic plate; reds are seldom met with, and when they are, are not very luminous. In fact, it is not too much to say that, from the point of view of color rendering alone, one can get everything likely to be required on an orthochromatic plate of the green-yellow sensitive variety.

If we attempt to do this without a color screen of some kind, however, we shall fail. A close examination of comparative results on an ordinary and on an orthochromatic plate will usually allow us to pick out which is which without much chance of error; but it will do little more. The gain from using the plate without a screen is not worth mention. Nor is there any very great increase in truthfulness if one of the self-screened plates is employed. They are slightly better than an orthochromatic plate without a screen at all, just as the latter is slightly better than an ordinary plate; but the double gain, if distinct, is not a very marked one.

This was only to be expected, as a screen to do what we require will prolong the exposure several times, and if a self-screened plate were provided with so deep a screen, the exposure which it required would be so

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long as to put its use for many of the purposes for which it is designed out of the question. In fact, a very few experiments will be sufficient to show that a color screen prolonging the exposure from five to ten times will be needed, if we wish to get anything like a fair rendering of the average landscape subject on an orthochromatic plate.

There is no reason why a separate color screen should not be used when circumstances require it with a "self-screen" plate, if a plate of this character is used without a screen for ordinary work. We can carry our slides or cameras loaded with such plates, which are quite fast enough for ordinary shutter work, and at the same time, by having a deep yellow screen which can be put on the lens when required and when a time exposure is practicable, we are prepared for all emergencies. Even if a separate screen is not carried, there is an advantage in the use of orthochromatic plates, screened or not, in the fact that, while at mid-day they are no faster than, if as fast as, non-orthochromatic plates; towards sundown, when landscape subjects are likely to be much more plentiful, and under the shade of trees where the light reflected and re-reflected from the green leaves has a very strong shade of green, they are distinctly, and often a great deal, more sensitive.

Probably very few photographers nowadays make their own color screens; and we do not propose to describe how screens are to be prepared. The game is not worth the candle; the smallest quantities of the suitable dyes which could be purchased would make hundreds of times as many screens as any amateur could require. There are excellent color screens on the market at very reasonable prices; while for preliminary trials a piece of dyed gelatine film will serve all purposes and can be obtained for the merest trifle. Nor need the advice to get a light filter specially designed for the particular make of plates in use be followed. Orthochromatic plates and films, as distinguished from panchromatics, do not differ so greatly amongst themselves as to make this necessary.

A point in practice which is of importance is to know as accurately as possible what increase in exposure a screen entails with the plates which we are in the habit of using. The ordinary practice of speaking of "three times" or "six times" screens is altogether

too lax to be used as giving more than a rough indication of the lines to be followed in making the experiment by which to ascertain what increase is required.

The increase, it should be noted, is not a rigid quantity, but depends upon the light in which it is made. In the white light of mid-day it is at a maximum. Much less, proportionally, will be sufficient in the yellow light of a sunset, while by artificial light at night, if a screen were to be used at all, it would be pretty sure to be found that it prolonged the exposure only a tithe of what it did in full daylight. As a matter of practical convenience, ordinary daylight is that in which the influence of a color screen is measured; unless, of course, it is required for some special purpose.

To measure the extent to which the exposures are to be increased, the experiment should be tried on a subject which has no positive color, but which has as full a range of light and shadow as possible. Nothing better for the purpose can be required than a roll of white paper on a black cloth, as suggested some years ago in *Photography and Focus*. A sheet of white paper (news-paper will do, as the printing is not in the way, and indeed can help in the focusing) is bent into a cylinder by rolling it round some object such as a band-box, and the focusing cloth, or a piece of black velvet, being spread upon a table out of doors and in a good light, but not sunlight, the cylinder, with something inside to keep it steady, is laid on the cloth. The plate may be put horizontal way in the camera, and the exposure having been found by means of the meter, a series of exposures may be given, without the screen, pushing in the shutter a little at a time. Half the meter reading, the whole, one and a half times, and twice form a good series. The screen is then put on the lens, and four similar exposures are given, but in this case increasing them in the proportion indicated by the nominal value of the screen.

The two plates must be developed side by side in the same dish for exactly the same length of time, marking the one taken with the screen before starting development to prevent all risk of confusion. When they have been fixed, washed and dried, a careful comparison of them is pretty sure to show one part in each which matches the other. Knowing what these two parts received, we

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divide one exposure by the other, and so get the actual increase of exposure required by the screen in ordinary daylight. In making the comparison, all the gradations from the highest light, where the light strikes down on the top of the roll of white paper, down to the deep shadows right underneath, should be taken into consideration.

It might be thought that all this is a great trouble, and that one might take the seller's word for the increase necessary until he was shown to be wrong; but the difficulty is that without some such experiment as this one cannot learn whether one is right or wrong. The effect of using a color screen and giving too small an increase in the exposure is not to obtain what at the first glance one can see is an under-exposed negative, but a result which does not give the full color correction which the screen is capable of yielding. For some reason which it is not easy to explain there seems to be a strong tendency on the part of those who supply color screens to under-estimate the increase they require, and except as regards the products of one or two makers who have specialized in this direction, one will find almost invariably that by increasing even to double the nominal effect of the screen, a greatly improved color rendering will be obtained.

It is possible that the reader who has followed this article thus far may have gathered that it is written in advocacy of orthochromatic but not panchromatic plates for landscape work; but this is not so. It was pointed out that in this work as good results could be obtained on the one kind of plate as on the other, provided the screen were suitable. But panchromatic plates have this advantage, and it is a very great one, that the same degree of correction can be obtained with them as with the others for a much smaller increase of exposure. A panchromatic plate with what is known as a K 3 screen, which increases the exposure not more than three times, will give a rendering at least equal to that which can be got upon an orthochromatic plate of the ordinary kind with a ten times screen.

So that where shortness of exposure is important the panchromatic has a very great pull. Against this must be set the fact that it is so extremely sensitive to red that no light worthy of the name can be used in the dark-room, and time development in a tank

or covered dish becomes essential if fog is to be avoided.

There are some who regard this as being almost prohibitive; but, with the data for development given by the makers of panchromatic plates, it will be found to be quite easy and to give results at least as good as any that are to be obtained on ordinary plates by watching development.

With either of the combinations of plate and screen referred to above, it will be found that not only are the different shades of green properly differentiated, but the distance is rendered much more truly as the eye sees it, and that blue sky and white clouds are also very fairly registered. This qualified praise is all that can be given; because the problem of blue sky and clouds is not the simple one of good orthochromatism, but is complicated by the fact that the sky is so much more luminous than the landscape beneath, that an exposure which is needed to give detail in deep shadows may cause some of the contrast in the sky to be lost from over-exposure.

It is for this reason that, even with all the resources which are provided for us in the orthochromatic plate and color screen, the sky will be found more truthfully reproduced when the view is an open one than when it is one which contains heavy shadows, which have necessitated a greatly increased exposure.

One must be prepared, when working on these lines, to be told by "experts" that the photographs are over-corrected. Over-correction is not at all a likely fault; but we have all seen so many photographs that were under-corrected, or not corrected at all, that we have almost instinctively formed an idea of what constitutes a correct color rendering, which is not quite a true one. Green, especially the green of young foliage, grass, etc., is one of the most luminous of colors, its brightness to the eye falls little short of that of yellow itself, in fact, and it should therefore be rendered as a very light tone indeed in our photographs—lighter decidedly than the blue of the sky, except when the green is in shadow.

A word or two on the practical use of the color screen may be added. Although some of the dyes most used in the preparation of color screens are permanent (this is the case with the very important dye, "Filter Yellow K"), it is best not to expose the color screen

to light when it is not in use, but to keep it in a case. This also helps to preserve the polish of its surfaces, which is quite as important as the polish of the glass of the lens itself. There is no difference in the result, whether the screen is put before the lens, behind it, between its combinations, or close to the plate; it may be decided by the convenience of the case. Where the finest possible definition is required, the focusing must be done with the screen in position; and as the screen when placed between the lens and the plate lengthens the focus of the lens, this must be allowed for, when focusing by scale with the screen in this position.—J. W. Browne in *Photography*.

Development of Over-Exposed Plates

When Messrs. Hurter and Driffield first published the results of their researches on exposure and development they were generally understood to claim that the effects of incorrect exposure could not be altered, or compensated for, by any modification of development, and numerous practical workers thereupon set to work to show that this idea was altogether wrong. For quite a long time many were engaged in over-exposing plates up to the extent of about thirty to fifty times the normal amount; then producing printable negatives from the results by using various modified forms of development. In the light of present knowledge it is evident that these workers did not exactly understand what Messrs. Hurter and Driffield meant, while the latter gentlemen did not mean exactly what they said, hence the great controversy that arose was mainly one in which all were at cross purposes. But for the misunderstanding the experiments would probably not have been made, and in this case some very useful methods of development would have remained undiscovered, hence there is some reason to be grateful for the very animated discussion that then prevailed in photographic circles.

We have now generally settled down to the idea that it is best to make sure of approximately correct exposure, and follow it by a quite normal and standardized system of development. In these days of fast plates and of color-sensitive plates this is the only safe course, for an attempt to watch the progress of development generally results in fogging the plate. But the fast plates of early days

correspond only to modern plates of medium speed. They were not so readily fogged, and, further, methods of ascertaining the correct exposure were by no means so satisfactory as they are now. Practically the safest course to adopt then was to give a very generous exposure, and be prepared to deal with over-exposure in the course of development. Those accustomed to this method of working became so familiar with it that they grew quite careless as to over-exposure, and it was not uncommon for a worker, having ascertained from the tables then available what the assumed correct exposure should be, to multiply the result by six or eight so as to be "on the safe side."

There are times even now when it is impossible to be quite certain as to the correct exposure, though it is all important to get a good result, hence it may be useful to give some details of one of the most successful of these early methods of development, which we often used with plates that were over-exposed up to thirty times, and that can still be used with modern plates if a perfectly safe light is available. A good light being required to watch the results, it is safest to employ the method with plates of a speed not over about 100 Watkins. The developer is pyro-ammonia made up in the old ten per cent form, the pyro solution containing one ounce of pyro and one of metabisulphite in ten ounces. The ammonia solution, one fluid ounce of ammonia .880 in ten ounces, and the bromide solution being one ounce of ammonium bromide in ten ounces.

Two other solutions are required, the one being a ten per cent solution of ammonium citrate, and the other a mixture of two parts of the ten per cent ammonia solution added to one of the ten per cent bromide; this last solution is called the "intensifier."

The normal pyro-ammonia developer may be considered to consist of two grains pyro; one grain bromide, and two minims ammonia in each ounce. This is suited to correct exposures, but for doubtful cases, where over-exposure may exist, only one minim of ammonia should be used at the start. If over-exposure is known to exist, the pyro should be increased together with the bromide in the same proportion. With an extreme case of known over-exposure the developer at the start may contain eight grains pyro, four grains bromide, and half a minim of

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ammonia per ounce, while one dram of citrate solution for every ounce of developer should be put in a separate measure. The appearance of the image should be watched. It will probably hang fire a little at the start and then appear very suddenly, at which moment the developer should be poured off into the measure containing the citrate and be reapplied to the image as rapidly as possible. One cannot be too quick with this operation, hence it is advisable to start development with the dish in one hand and the measure in the other. The image will now gradually grow in density, but if the growth is not sufficiently rapid it can be accelerated by adding a little of the intensifier, say, half a dram per ounce of developer. Density should then grow rapidly, but the plate should not be fixed until it appears slightly over-exposed. For more moderate cases of over-exposure we can adopt less drastic measures, using less pyro and bromide at the start and less citrate after, but no harm is done by making a false start with too slow a developer. If it proves too slow, add more ammonia and dilute. If, on the other hand, we start with too rapid a developer, the image may be lost in fog before we can get the citrate into the developer. The method is essentially a tentative one, and it is not possible to give exact quantities for different degrees of over-exposure. A few trials will give far more information on this point..

The amount of citrate necessary can be judged by the manner in which the image comes up in the first developer. When using pyro-ammonia with correct exposure the various gradations of the image appear in regular sequence, the high lights first and the shadows last. They do not appear all at once as they do with some modern developers unless over-exposure is considerable, in which case a liberal amount of citrate is required. When employing this method with cases of doubtful exposure we used to prepare two doses of citrate, one strong and one weaker, keeping the former in immediate readiness in case of emergency, but changing the two measures if the appearance of the image denoted that over-exposure was not very excessive. Of course, when exposure is unknown, citrate may not be wanted at all, but we have assumed that we are only dealing with plates that are known to be badly over-exposed, these being the only circum-

stances in which this special mode of development is required at all nowadays.

It is worth noting that this citrate method was first published many years ago under the name of "rational development." At that time an attempt was made to apply the same principles to pyro-soda, but, so far as our experience goes, without any great success. Pyro-ammonia is practically the only developer with which the system appears to work satisfactorily.

The theory of the citrate method that we have described is probably a simple one. It seems likely that the final result is the conversion of an alkaline developer into a physical one, density being produced by the deposition of silver dissolved from the emulsion upon the faint image that is first formed. It is fairly well known that very extreme cases of exposure going to the stage of reversal can be developed into satisfactory negatives by applying a physical developer containing silver instead of an alkaline one. Ordinary negative plates are not well suited to the use of what is generally known as a physical developer, though possibly they can be satisfactorily treated with Lumière's mercury developer, which is now sometimes used as an intensifier. Bromide lantern plates will, however, serve with a silver developer, and very striking results can be produced in them.—*British Journal of Photography.*

Intensification By Re-Development

We recently had our attention directed to an article in a contemporary in which the effect of chromium intensification was described as peculiar, in that the process added nothing to the image. It was to be inferred that the effect was due to some peculiar result of the mere process of re-development, and this suggestion of the possibility of intensification resulting from re-development alone, without any material addition being made to the image, is a very old one that led to much argument some years ago. The statement quoted above to the effect that the chromium process adds nothing to the image is, however, incorrect, for the intensification is actually due to the addition of a very considerable amount of a chromium compound of the nature of an oxide or a chromate. The effect is therefore comparable to that produced by mercury, silver or uranium intensification, in all of which processes additional metal is added to the image. Whether

there is such a thing as an intensification process dependent on the effect of simple development alone is very doubtful. Some time ago there was much talk about "molecular rearrangement" of the silver particles producing re-development as being responsible for enhanced density, but while the idea is just feasible in theory, we have no knowledge of any chemical process of intensification that can be proved to be dependent on such rearrangement.

The density of a deposit on a negative depends on three factors: on the number of silver particles in a given area, on their individual size, and upon their distribution, or, as we may say, on the closeness or looseness with which they are packed together. The first factor cannot be altered by any process of chemical intensification. The last factor can be affected by mechanical means, for density is affected by unequal drying of the negative or by drying by heat, but there is no obvious reason for supposing that the bleaching of the particles, followed by a re-developing process, with subsequent washing and drying, can affect the distribution of the particles at all. It is, however, evident that a bleached particle, which consists of silver, plus halogen, must be larger than the original silver particle; and if in the subsequent developing process the whole of the added halogen is not removed the final particle will also be of slightly increased bulk. Thus the second factor, the size of the individual particles, may come into play in a process of re-development, just as it does with all the other processes which, as we know, add metal to the image. In short, added halogen may play the same part as added metal. A partially developed particle containing added halogen must be larger than the original particle, which, presumably, consisted of silver only, but the effect of the greater bulk will not be evidenced by greater printing density unless the larger particle is as opaque to light as the original one. A silver particle is opaque, but a bleached particle is translucent. If partially re-developed, it may be either opaque or simply semi-opaque or gray, and in the latter case there can be no intensification. Which effect is produced seems to depend very largely on the nature of the haloid salt produced in the bleaching process, and upon whether this is readily reduced or not. Silver chloride is very readily reduced

by a developer, and if we attempt to stop the process by cutting the time of development down we get less density than before, instead of intensification; while if the developer is allowed full play we can only get back to approximately the original density, no appreciable increase being observed. On the other hand, silver iodide reduces very slowly and reluctantly, even with the aid of strong exposure. Complete re-development seems to be impossible, yet complete opacity can be reached with strong intensification. Analysis of the results shows that this action of the developer is superficial, each particle having a mere shell of reduced silver surrounding a large nucleus of unreduced iodide, and the particle as a whole being opaque. In the case of silver bromide we have what may be described as an intermediate state of things. Sometimes no increase in density can be noticed, while at others there is a slight obvious increase. Analysis shows, as a rule, very small traces of undeveloped silver bromide, but the amount is so very small that it is difficult to detect. The intensification, when it exists, is also so slight as to be of little or no use for a negative, though it is often enough for a bromide print.

The bromide and chloride images referred to are assumed to be produced with the ordinary bleaching solutions which give silver halide compounds readily amenable to development without the aid of exposure to light. If we use pure bromine or pure chlorine, we get images in pure bromide or chloride of silver not amenable to development unless exposed. Such images, in our experience, never show intensification when re-developed, while it is seldom possible to re-develop them to anything like their original intensity. This is probably due mainly to the difficulty of giving them the exact exposure that they require, while very likely complete re-development is impossible in just the same way as it seems to be impossible to reduce completely all the silver on an ordinary dry plate. In the case of the pure halide images the difficulty seems to be so great that we can never get beyond the semi-opaque or gray stage. The other images can be developed further to an opaque stage, but whatever degree of intensification may result can only be attributed to the fact that the opaque particles are still not quite completely reduced.—*The British Journal of Photography.*

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Shutter Speeds Not Uniform

Under this heading, in the August issue, both the correspondent who sent in the prints and our other readers were given a wrong explanation, an explanation radically wrong. The prints from the two negatives, I have since learned, were on different grades of paper, and this accounts for their appearance as described. This, and too much Exposition attendance forced upon us by visiting friends, led us into an erroneous explanation that, while it apparently reads all right, is nevertheless all wrong. One twenty-fifth second exposure at f-8, using a diaphragm shutter, will not give as much illumination to the plate as will four such exposures at f-16, and, printed on the same paper, the negatives our correspondent made might so prove. With a small stop, the aperture is fully uncovered while the shutter is opening to its full capacity and closing again to the stop diameter; while, with the larger stop the value of the full aperture is only realized for an instant, assuming continuous travel of the shutter blades and the same total time of full travel. Were the time of opening and closing only a part of the entire exposure, the case might be different. Mr. Blacar, of Bangor, Maine, was the first of several readers to call attention to the mistake, and we are pleased to know that such close attention is given our pages.

Perspective In Portraiture

The amateur does not do much portraiture, despite the fact that he has, in having his intimate friends and relations as subjects, a decided advantage over the professional in the matter of securing natural poses and expressions if he but knew a little more about the work. He secures effects that can hardly be called pleasing and he is at a loss to account for the difference between them and the regular portrait work of the photographer. I am sorry that I cannot introduce a few comparative examples to show what I

wish to point out in the matter of perspective, but perhaps I can explain without. You have all seen a picture of a building taken with a wide-angle lens, a building taken, as is right and proper and as it generally is, from a little to one side of the nearest corner. The roof at that corner, or rather, that part where the roof meets the corner, seems to run up into the sky as if it intended to compete with the nearest church steeple. Now, when a sitter is placed, as she should be, with the near shoulder occupying the position of the corner of the building just mentioned, and the exposure is made with a lens of a focal length such as is fitted to the average amateur camera, that shoulder looks as if the sitter had drawn it up as a protection to the head, the head appears tilted up in the same way, giving the poor subject both an ill-natured and a haughty air. It is all due to the same tendency of the lens that gives us roadways having a width exceeding their length, and buildings that taper down to a point in the distance, when these subjects are allowed to crowd the plate, and the like. Mind, I am not finding fault with these lenses. They are the best possible for all-around work, but they are a long way from being the best for portraiture. One can overcome this fault to quite an extent by placing the shoulders of the sitter square with the camera and then slightly turning the head away in order to get the usual animation which variation between direction of body and head gives, but one does like to have portraits looking directly at the beholder, and that necessitates shoulders at an angle to the camera. Still another means of mastering the difficulty is to make the heads small, use only the center of the plate or film, and then enlarge. Any lens is a long-focus one if the plate used, or that portion used, be small enough. With the small image the prints can be made by enlarging; and, working in that way, a pleasing perspective will be secured.

CAMERA CRAFT

Photographs Printed On Fruit

An Iowa subscriber says he remembers reading about something of this kind and asks us for directions. One should select a variety of apple that reddens as it ripens,



and, on the side next to the sun, attach a film negative with white of egg, being sure that no leaf or twig shades or intervenes to prevent uniform action of the light. To avoid the sunlight affecting other parts than through the negative, the apple may be encased in an opaque paper bag with an opening cut in its side opposite the portrait image on the negative. One of our contributors, Nick Bruhl, described this method in our March, 1907, issue and the illustration herewith is taken therefrom.

Sealing Wax For Dipping Bottles

Take twelve ounces of gelatine, pour on one ounce of glycerine and six ounces of water and let stand overnight. Then heat in a water bath until the gelatine is liquefied, adding any desired aniline color. Dip the cork and a portion of the neck of the bottle into this liquid, seeing that it is kept warm. It can be liquefied whenever wanted for use by simply placing in the water bath, this last being simply the vessel containing the gelatine and glycerine solution, inside of another and slightly larger vessel containing water, the arrangement being practically the same as that of the ordinary glue pot with which every one is acquainted.

Restoring Faded Negatives

A correspondent in Chicago asks as to a method of restoring faded negatives. A year or two before his death, R. Beneke, then emulsion man for the Cramer Plate Works, sent us the following without saying whether he had ever tried it or not, crediting it to Sir William Crookes, of Crookes tubes fame. Put negative in distilled water for three

hours, then place in ordinary pyro developer for ten or fifteen minutes, in the dark, after which wash and fix in a fifteen per cent hypo solution. Next clear in a solution of alum and sulphate of iron and again well wash. The last manipulation consists of toning the negative in a bath made up of four thousand parts of water, one part of gold and from six to seven parts of tungstate of soda. These are all the details we have and the process has never been tried out by ourselves. Working in this way, Sir William Crookes restored some very valuable negatives representing star clusters, many of the smaller stars that had completely disappeared being made clearly visible and printable again.

Developing Under-Exposures

A New York correspondent has returned from a foreign trip with a large number of badly under-timed negatives, made so by a misunderstanding of the foreign markings on his shutter. He has read about the use of warm solutions and asks us to give him what information we can. There is some care required, as most developers turn turbid when used hot and gelatine will only stand about ninety-five degrees Fahrenheit before melting, if not hardened. Immerse the exposed plates in a ten per cent solution of formaline for about ten minutes, wash in fresh water and then place in a developer composed as follows:

Pyrocatechine, ten per cent sol...	1 ounce
Sodium sulphite, five per cent sol...	1 ounce
Potassium bromide, ten per cent sol.24 minims
Water	20 ounces
Ammonia, enough to give slight odor when shaken.	

Float the tray containing developer in a vessel filled with water at one hundred and thirty degrees Fahrenheit, moving the plate about every five minutes. When fully developed, fix in a fresh hypo bath, not too cold, for at least fifteen minutes. If yellow or red stains make their appearance, immerse, after washing, in a very dilute bath of chlorinated water, again well washing before drying. Our correspondent says he is willing to try anything that holds out any hope, as he is convinced that it is impossible to make printable negatives from these exposures in the ordinary way.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Illinois Members

Illinois album number eight should be started on its way, but there are not enough prints on hand for the purpose. The album is all ready and only the necessary prints are required. By sending me a few of their prints, Illinois members would greatly oblige not only their fellow members who wish to have the album, but one who is only too willing to do his share, your State Album Director, GEORGE A. PRICE, 802 West Park Street, Urbana, Illinois.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality, a letter "X" will be placed after the member's number, indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

NEW MEMBERS

4120—Robert Horvarth, 215 West 5th St., Chester, Pa.

4x5, 5x7, and post cards, various papers, of landscapes, buildings, boats, machinery, animals, and miscellaneous views; for landscapes, marines, buildings, old ruins, animals, birds, street scenes, mountains, historical and typical scenery. Class 1.

4121—R. F. French, M. D., Masonic Temple, Marshalltown, Iowa.
Class 2.

4122—Harry B. Nolte, Algona, Iowa.
Class 2.

4123—P. F. Scammon, 936 Standley St., Ukiah, Cal.

3¼x5½, 5x7, various papers, of local views and outdoor portraits; for outdoor portraits, views of general interest. Class 1.

4124—Frank H. Kerr, 3253 Congress St., Chicago, Ill.

3¼x5½, developing papers, of Eastland disaster, bathing girls, interesting scenes in

and around Chicago; for same class subjects, also water, Western and night scenes. Cards or prints. Class 1.

4125—Albert R. Dye, Company G, 15th Infantry, Manila, P. I.

3¼x5½, 4x5, 5x7, developing papers, of views of the Philippine Islands, the ways of soldier life in Philippine Islands; for interesting scenery of any State or place or photographs of children or girls. Either post cards or unmounted prints. Class 1.

4126X—John Bieseman, P. O. Box 136, Hemlock, Ohio.

Post cards, 4x5 and 5x7, developing papers, of a wide variety of views; for a variety of good work. Photo correspondence wanted with each exchange. Desire to exchange only with good workmen. Class 1.

4127—J. Wilbur Kepler, Renovo, Pa.
Class 2.

4128—Miguel G. Rocacho, Paracals, Camarines, P. I.
Class 2.

RENEWALS

1747—W. C. Cosby, Box 338, Abilene, Texas.

3¼x5½, developing papers, of landscapes, water scenery, and views of general interest; for the same and draped studies. Good work only. Post cards only. Class 1.

2404—A. E. Fyall, Lower Nicola, B. C., Canada.
Class 2.

3011—Levi French, Oakdale, Cal.

3¼x5½ and 4x5, developing papers, of farm scenes, scenery, buildings, California and North Dakota; for scenes of general interest. Class 1.

3032—John Daniels, 73 Bellingham St., Woonsocket, R. I.

5x7 and smaller, various papers, of landscapes, genre, street scenes, still life, buildings and miscellaneous; for anything of general interest. Class 1.

3676—C. R. Lowe, Benedict, Neb.

9x12 cm. and enlargements, developing paper, of birds, some wild animals, genre, children and flowers; for almost anything interesting and of good work. All work sent and received on approval. Class 1.

4105—Louis S. Todd, Plainwell, Mich.

3¼x5½, 4x6, 4¼x6½, prints of national views, river, woods, animals, birds, etc.; also have high-speed motion pictures. Prefer postals or 4x6 D. W. paper and would like members to send packages of 4 or 5 cards with their exchange. Only good work sent out. Wish cards of general interest. No portraits. Class 1.

CHANGES OF ADDRESS.

2780—V. A. Ulrich, 1524½ Broadway, Spokane, Wash.

(Was 1411 Gardner Ave.)

3830—Dr. A. O'Neill, Box 525, Daytona, Fla.

(Was Lakeport, N. H.)

3853—J. R. Amelung, 3517 Virginia St., Kansas City, Mo.

(Was 3746 Wayne St.)

3998—D. L. James, R. F. D. No. 2, Nobbs, Ind.

(Was Lexington, Ind.)

4039—Lt. L. E. Loebel, 644 So. Figueroa St.,

Los Angeles, Cal.

(Was 1819 W. 7th St.)

4079—J. W. Thornton, 307 Third Ave., Dayton,

Ky.

(Was Bellevue, Ky.)

CLUB NEWS AND NOTES

Club Secretaries and others will oblige by
sending us reports for this Department

Paget Color Plates Demonstrated

The Los Angeles Camera Club met in the Lyceum Building on the second Thursday of August, in order to inspect the prospective new club quarters on the top floor of that building. After inspecting the spacious quarters, skylight, cement-floored dark-room and private elevator, members of the club were in favor of taking the rooms, formerly the Marceau Studio of Los Angeles, for club quarters. However, since a majority of members were not present, no formal action was taken. The club members adjourned to the Los Angeles College of Osteopathy Auditorium, where an exceptionally good exhibit of slides by the Paget duplicating process was shown. The lecturer, formerly connected with the Paget Company in New York, explained the theory of the Paget taking and viewing screens, and followed this explanation with practical remarks. Especially emphatic was he in regard to giving Paget negatives correct exposure. He recommended as nearly correct exposure of the negative as possible, normal development of negative in darkness, and modification when necessary in the positive printing and development.

California Camera Club

Considerable activity has been displayed during the last few months, notably by its members in the securing of a great number of studies of the Panama-Pacific Exposition. There have been given two successful Yosemite excursions this season, and in September the Club will have another steamer trip, when many points of interest, photographically and otherwise, on San Francisco Bay will be visited.

The Club is exhibiting in its rooms a collection of prints made by advanced pictorial workers of California. Additional pictures are being received during the term of the exhibit, which will continue until December. Illustrated monthly lectures have been given

regularly at a large hall, demonstrations are held at the rooms at frequent intervals, while socials and dances have not been overlooked.

Photographers from all parts of the country have visited the Club, while "doing" the Exposition, and both the latter and Central California received their unstinted praise. Many more are expected and all will be welcomed.

Relation of Exposure and Development

At a meeting of the Los Angeles Photographic Club in the Public Library Building on the first Thursday of September, the treasurer, C. L. Hogan, gave a report of the finances of the club. In order to raise funds to furnish the projected club quarters, the former Marceau Studio, a committee, consisting of club members Dodds, Crandall and Buskirk, was appointed by President Adlard to find features on a program for a club entertainment in October. A motion was carried that the secretary, Hal G. Hall, advertise for a tenant to sub-let part of the floor of the new quarters. Frank Shirley showed a number of prints, taken on his vacation. Among these prints was a series showing the increase of contrast as result of short exposure and long development, and another series demonstrating how soft results may be obtained from a rather contrasty subject by full exposure and brief development.

"Annuario 1915 Della Fotografia"

This is certainly a valuable collection of photographic information, comprehensive and complete, well edited and carefully arranged. Any one reading Italian and interested in photography should send for a copy at once. It contains nearly five hundred pages of text matter and a number of plates in colors are added to the illustrations. Copies can be obtained by remitting to Il Corriere Fotografico, Viale Magenta 12, Milan, Italy.



OUR BOOK SHELVES

"A Field Book of Western Wild Flowers"

Books we have had on the natural flora of the country, but they have all been mainly concerned with the flowers of the East and the Atlantic Coast, in most cases but little attention being given to that of our own glorious West. In this new book, Margaret Armstrong, with Professor J. J. Thorner, of the University of Arizona, as collaborator, has given us a work devoted exclusively to that section of the country lying west of the Rocky Mountains. Intimate bits of descriptive matter, folklore and tradition are interspersed, showing conclusively that the author is perfectly in sympathy with her subject as well as fully informed thereon, be it a flower from the deserts of Arizona, the wind-swept plateaus of the Rockies, the snows of the Sierras, the cliffs of the Coast or the temperate climate of the interior valleys. The technical botanical terms have been translated into every-day English and other features make the book one to fill the popular demand. There are some five hundred drawings and nearly fifty color plates incorporated. Published by G. P. Putnam's Sons, 2, 4 and 6 West Forty-fifth Street, New York. Price, two dollars net.

"1001 Places To Sell Manuscripts"

The new edition of this standard guide to the literary market is a welcome visitor to our desk. Over five hundred publishers, play producers, calendar and post card manufacturers, syndicates, etc., are listed and classified with an alphabetical and a subject index. The last edition contained about three thousand and the first or original edition listed one thousand and one, explaining the original title, which has been held. The present volume is the result of many years' work, embracing scores of interviews and the writing of thousands of letters. Editors' statements of their requirements give the reader an education in editorial requirements that is of

the greatest value. Particularly interesting to the photographer is the department devoted to markets for photographs; and, of course, suggestions as to what class of manuscript the various publications want indicate quite clearly what class of photographic subjects will be most likely to find a sale with them. The book is published by The Editor Company, publishers of that well-known journal of information for literary workers, *The Editor*, Ridgewood, New Jersey. Copies of the book will be sent postpaid upon receipt of one dollar and sixty-two cents.

"Citrus Fruits"

Under the above title, J. E. Coit, Professor of Citriculture, University of California, has given us a new volume in the well-known Rural Science Series. Professor Coit has certainly treated the subject in an exhaustive and thorough manner, giving to the work the results of his many years of close study and careful observation. The information and advice given are based on knowledge of every factor entering into the practical work of propagation, cultivating, irrigating, protecting from insects and diseases, and handling and marketing the fruit. A handsome book of over five hundred pages with nearly two hundred illustrations, it ranks as the last word on the subject of citriculture. To help the man who desires to make money growing oranges, lemons and grape-fruit seems to have been the underlying idea and to do it in an interesting and readable manner was evidently hardly less important in the author's estimation. As an example of its thoroughness, over forty pages are devoted to frost and heating, the experience of growers during and since the frost of January, 1913, being particularly illuminating. The book is published by the Macmillan Company, 66 Fifth Avenue, New York. Price, two dollars.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

C. C. Lord, of Long Beach, has added twenty-five feet to the width of his store and enlarged the kodak department. Two new lines, candies and hand-painted china, have been introduced. C. C. now has a young department store.

Yes, Tony Babb, of Howland & Dewey's, Los Angeles, also has a car (?).

Shirley V. Bacon's assistant, Miss Hallie Cody, had a very painful accident August eighth. Her thumb was caught in the printing machine and so injured that the member may be made crooked permanently. Miss Cody has our deepest sympathy.

L. E. Buttrick (alias "The Duke") was in Los Angeles recently in the interests of the Eastman Kodak Company.

H. E. Lutes, manager of J. E. Slocum Kodak Store, San Diego, expects to be in San Francisco with his 1916 Packard about October first.

Another Ford sold, Mrs. A. G. Reynolds, of Coalinga, being the victim. She will no doubt "Ramble Right Along" to San Francisco now.

Harold Parker, of the Parker Studios, Pasadena, is treasurer of the Film Producers, Incorporated, a new concern with offices in the Van Nuys Building, Los Angeles. Frank C. Hill, a prominent attorney of Los Angeles, is president; R. E. Nathansohn, vice-president and general manager, while Robert Levy is secretary.

We were sorry to hear that the pretty maroon cushion which Duke Buttrick carries in his grip has been spoiled. On a recent visit to Selma, Mr. Heller, of Dusy & Sawrie, presented the Duke with some real California peaches. These were put into the grip for a trip to Fresno, where, alas, the soft cushion was found to be practically out of commission. Perhaps the peaches were a little too ripe to start with.

F. C. Lee, of Fresno, was in San Francisco recently.

L. M. Powell, of Hanford, motored into San Francisco during August.

Carl La Moigne, of Webster Brothers Drug Company, Fresno, has a double in his brother Mickey. Carl's moustache is a little heavier.

J. M. Johnson, formerly of Stockton, is now with Marsh & Company, the popular Market Street dealers.

J. E. D. Baldwin, California's oldest photographer, came in from Sacramento to visit the Exposition the first week of September.

More Room Required

Burke & James, Incorporated, the well-known photographic manufacturers of Chicago, have removed their New York offices from the ninth to the tenth floor of the Brunswick Building, 225 Fifth Avenue. In doing this they secure more than four times the space, enabling them to enlarge their organization as well as carry a much larger and more varied stock for the benefit of their Eastern trade.

Grand Prize Goes to Eastman Exhibit

While the official certificates of awards will not be issued until the close of the Exposition, the Eastman Kodak Company, in common with all others receiving awards, have been notified that their exhibit was awarded the grand prize, the highest in the power of the Jury of Award, on hand cameras, as well as two gold medals, one on Kodachrome plates and photographic supplies and equipment and the other on photographic papers. The exhibition made by the Eastman Kodak Company is composed mainly of a handsome display of bromide enlargements occupying the entire upper gallery floor, while a beautiful display of portraits in natural colors by the Kodachrome process occupies the main floor except for a few cases in the front of the booth containing samples of the firm's most popular amateur cameras and the like. While no attempt has been made to show a representative line of the goods manufac-

NOTES AND COMMENT

tured, and many of the firm's most popular photographic products are not in evidence, the display is one that should not be missed by any visitor interested in photography or the rapid advancement being made therein.

The Ruby Hylo Mazda Lamp

Such of our readers as have electrical current available will be pleased to learn, through the advertisement on another page, that there is now on the market a ruby lamp of the Hylo Mazda form. They can be obtained either clear or frosted, both being tipless. The density of the ruby glass is such that the small filament is absolutely safe for the most sensitive plates, while the large filament of full candlepower gives a very fine illumination, safe for ordinary plates, enlarging and developing papers. They are manufactured by the Economical Electric Lamp Division, National Lamp Works of General Electric Company, and any dealer in photographic supplies or electrical goods can furnish them. They are ideal for the purpose, being made especially for photographic use, and are not to be confused with the ordinary red lamps, many of them with the trouble-causing tip, that some photographers have tried to use in the past.

High Honors Awarded Ansco Products

Photographers may be interested to know that Ansco products were selected for high honors at the Panama-Pacific Exposition, despite the fact that prizes were not sought by Ansco Company, a full line of Ansco cameras and Ansco photographic materials not being on exhibition when the judges met. The Ansco booth was not erected for the purpose of exhibiting goods, but to carry out the terms and conditions of Ansco Company's Five-Thousand-Dollar Loveliest Women Contest, one of which conditions was that the prize-winning photographs would be shown at the Panama-Pacific International Exposition at San Francisco.

We are told that one of the judges who had attended the photographic exhibition recently held in New York City at the Grand Central Palace under the auspices of the Photographic Dealers' Association, noticing that the Ansco line was incomplete, turned to the jury and remarked: "Gentlemen, the Ansco Company is making the finest small camera I have ever seen. In fact, in my opinion, it is the best camera of that particular style

in the world; but since they have not seen fit to place it on display, we cannot take it into consideration." This gentleman referred to one of the popular Ansco Vest Pocket Series. On the strength, however, of such Ansco goods as were accessible to the jury, the Ansco Company was awarded a gold medal and a medal of honor, the latter being the highest award given professional photographic goods. The studio equipment and professional goods which merited and received this award were the New York Studio Outfit with Ansco Upright Studio Stand, Ansco Printing Machines and Professional Cyko paper. The gold medal was awarded to Ansco Amateur cameras, Ansco film, amateur grades of Cyko paper, and Ansco and Cyko chemicals.

The Ansco Company claim these awards are but further proof that "If it isn't an Ansco, it isn't the best," is not a mere slogan coined for the purpose of procuring a prize offered by an advertising manager, but a natural outburst based on facts.

In New Quarters

As our readers no doubt noticed by his advertisement in our last issue, William J. Grow, the well-known dealer in photographic supplies, is now occupying a new store. This brings him to a ground-floor location in the heart of the tourist and kodak users' district, 440 South Hill Street, a location that is more accessible and convenient and one that has already resulted in a material increase in business, particularly in his specialty of kodak finishing for particular people. Mr. Grow enjoys the patronage of a large number of discriminating residents of his enterprising city, and those of our readers who may be visiting Los Angeles should not fail to look him up.

The Rexo Guide

This is a new, forty-eight page booklet that is replete with formulas and suggestions, real helps, for the user of developing papers and particularly Rexo paper, the product of the firm, Burke & James, Incorporated, 240-246 East Ontario Street, Chicago. It tells how to select the proper grade of paper for any particular negative or any desired effect, how to standardize the printing process, how to make each step easy and simple with the best results assured. It tells how to secure sepia, green, blue and

red tones; it tells a lot of things that makes it well worth sending for. It is ready for free distribution; all you have to do is to write the above firm for a copy. Yes, it tells about working Enlarging Rexo also.

The M-Shaped Enlarging Outfit

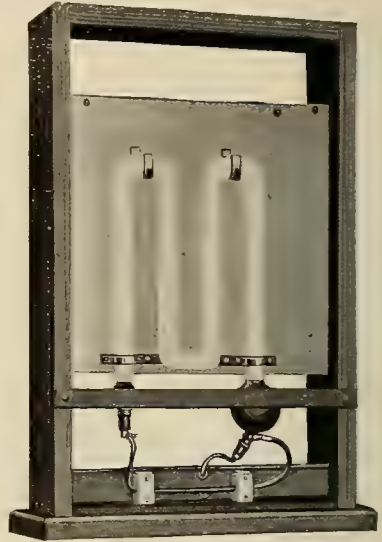
Photography, like every other industry or trade, has made tremendous advances in recent years, due to the demand for high grade work. Especially has this been the case with enlargements of photographic negatives which require special lighting facilities for producing the best results. What is required is a steady light without flicker or variation and one that could be used without condensing lenses or other diffusing media. An illuminant was also required that had a long life and did not require constant care and attention.

For enlarging purposes it is also desirable that the illuminant be one that brings out the roundness and the atmosphere of the negative without accentuating any of the retouching or coarseness that detracts from the finished picture.

This ideal has been practically realized for some time past with the use of one or more Cooper-Hewitt twenty-inch tubes. This arrangement gave the desired quality and quantity of light, but it was found that the efficiency would be very much increased if it could be arranged to concentrate the maximum amount of light directly behind the negative. Realizing this fact, the Cooper-Hewitt Electric Company has brought out the M-shaped outfit illustrated in the accompanying illustration, which accomplishes the desired object in a very simple manner. So-called from its similarity in shape to the letter "M," this outfit consists of a fifty-inch tube bent at six points as shown. This tube in this shape gives a strong even field with two sheets of ground glass which can be placed within three and one-half inches of the tube and within one-half inch of the negative. These can be furnished for either direct or alternating current circuits, and may be mounted on a stand.

A number of these devices are in use by photographers who claim that they are able to obtain excellent enlargements in considerably less time than with other light sources. Among the particular advantages claimed by those using this outfit are that it affords an

even distribution and a steady glow of purple rays, whereas the arc lamp has to be adjusted at frequent intervals, and that there



is an absence of glare often observed from an incandescent source.

The lamp is described and illustrated in Bulletin 61, which will be sent to anyone interested by the Cooper-Hewitt Electric Company, Hoboken, N. J.

A New Supply

Just too late for mention in our September number, Mr. Fitzsimons advised us that he had just received a large supply of the popular Sigma plates and there is no longer any delay in filling orders for them. Quite a number of photographers who have become accustomed to the advantages of these ultra-rapid plates have been greatly disappointed by reason of their inability to obtain certain sizes and these gentlemen will no doubt be pleased to learn that no further trouble in that direction need be anticipated.

Illinois College of Photography

R. E. Wemple, a graduate from the Three Color course, has returned to the College to take up the study of commercial photography.

Dan Cupid made another visit to the I. C. P., and the result was a wedding with Lewis Barrack as the groom and Miss Mamie Hough, one of Effingham's best known young ladies, as the bride. Mr. Barrack, a former student, has built up a very successful business. The young couple have the best wishes of all.

NOTES AND COMMENT

Artatone Receives Award

A letter from Albert E. Jacobson, 518 West 134th Street, New York City, the manufacturer of the beautiful Artatone paper, advises that the Jury of Awards has awarded a gold medal, the highest award for a photographic paper, to Artatone. Such of our readers as are interested in a printing process that enables them to secure rich and striking effects from their negatives, should get in communication with this firm, and they can hardly do better than consult the advertisement on another page and order an Artatone print or enlargement from one of their own negatives.

For Banquet Photography

Those of our readers who are called upon to make photographs of banquets and the like should investigate the electric envelope cartridges put up by the Prosch Manufacturing Company, of 213 Pearl Street, New York. These are more convenient and less expensive than boxed powder, in the opinion of not a few workers, and as they can be obtained for ignition with dry batteries where regular current is not available, they can be used on all occasions. The firm, one of the oldest in the photographic line, manufacture everything for flashlight work and our readers should write them for a booklet covering their line.

Flashlight Wins Over Daylight

In our advertising pages is an announcement carrying a small reproduction of the picture winning first prize at the International Exposition of Photographic Arts. This portrait was made by R. C. Nelson, one of the many professional photographers who appreciate the advantage of the flashlight for portrait work. The old prejudice against flashlight is rapidly disappearing, and the photographers of today are beginning to realize that not only will the flashlight give them every result that can be obtained by daylight, but it gives them a light that can be carried into the home or wherever a picture may be required. It is not at all improbable that in a few years the making of portraits by photography will be no longer connected with the photographic skylight that has done duty for so many years. There are quite a number of leading photographers using flashlight in all their portrait work, and the fact that much of the best autochrome work is so made by the leaders in the pro-

fession is ample evidence that flashlight once used and its good points appreciated, meets with the endorsement of the men doing the best work.

An Announcement of Interest

Burke & James, Incorporated, desire to secure a number of negatives of good quality of human interest, made with an Ingento Junior camera. No restrictions as to size or subject other than that the negative must be made with an Ingento Junior or else the picture must depict the camera itself in use. For such negatives as are accepted we offer a gross of Rexo, the guaranteed developing paper, of a corresponding size. Send unmounted prints for inspection, no negatives. No responsibility for prints or negatives lost or broken in transit will be assumed.

Thousands of Ingento Junior cameras are now in the hands of amateurs throughout the country. Excellent examples of work done with these cameras have already been received, but the manufacturers are desirous of obtaining a still further supply, which prompt the above offer. The readers of this magazine who own an Ingento Junior camera are cordially invited to forward samples of their work to Burke & James, Incorporated, 240 East Ontario Street, Chicago.

Artistic Photography In Australia

Too late for mention in our September issue, we received the July number of *Harrington's Photographic Journal*, published by Harrington's, Limited, 386 George Street, Sydney, Australia. This is a special issue dealing with the artistic side of photography in Australia, and contains reproductions of what are perhaps the most pictorial examples of photographic work that we have seen from this progressive British colony. The work of O. H. Coulson and C. J. Merfield is given special prominence in the way of some twelve full page illustrations. Not only is the work such as will compare favorably with that accepted by any of the exhibitions, but both of these gentlemen tell the readers of the magazine just how the pictures are produced and the results achieved. Our Australian friends are to be congratulated upon the good work being done over there, and the readers of *Harrington's Photographic Journal* should congratulate themselves upon the examples of fine work and informative matter placed before them.

CAMERA WANTS

Advertisements of the above nature shown below will be inserted under this heading at the rate of fifty cents each insertion, for twenty-five words or less; each additional word, two cents extra, cash with order. Those of positions wanted inserted free. No business advertisements accepted.

FOR SALE Commercial photographic studio and work rooms in San Francisco, fitted for all classes of work. Large operating room, two developing rooms, 2 bromide rooms, printing room, copying room, etc., etc. Reasonable rent, centrally located, facilities for large business. Address C. G., care "Camera Craft," San Francisco, Cal.

FOR SALE A first-class, ground-floor studio, Central California, doing a good business. Will sell for \$900.00 cash. Will bear strict investigation. Address California, care "Camera Craft," San Francisco, Cal.

FOR SALE Ground floor studio located at Oxnard, Cal., in a rich farming valley with a population of 3,500 to 4,000. 6 other towns to draw from. Doing a good business; reason for selling, going East. For further particulars address W. E. Detrick, Oxnard, Cal.

PHOTO SUPPLY Business in San Francisco for sale. Has Eastman Kodak agency. Long lease and low rent. Will sell half interest or entire business. Address Box 40, care "Camera Craft," San Francisco, Cal.

FOR SALE Cheap, 5x7 triple-extension camera fitted with f-6.3 anastigmat lens, 7-inch focus; also 3½-inch developing film tank. For particulars apply F. Stear, Ft. Atkinson, Wis.

FOR SALE 3B Dallmeyer No. 2 1B Goerz 4x5 Slaytex with 24 holders and New York camera and stand. Bert Hodson, 811 K St., Sacramento, Cal.

10x12 GUNDLACH Rectigraph lens, newly fitted with Iris diaphragm; list \$60.00; will sell for \$25.00. N. C. H., care "Camera Craft," San Francisco, Cal.

FOR SALE Back numbers of "Camera Craft" unbound, complete 1909 to date, in fine condition. Make offer. C. L. Judd, Anacortes, Wash.

PHOTOGRAPHER WANTED An all-round photographer for studio and outside work for San Joaquin Valley studio to work on shares. Address C. A. Nelson, 2428 H St., Bakersfield, Cal.

SALE OR RENT A studio in a town in the San Joaquin Valley of about 16,000 population. C. A. Nelson, 2428 H St., Bakersfield, Cal.

LENS WANTED F-3.5, 6-inch focus. Address M. J. B., care "Camera Craft," San Francisco, Cal.

FOR SALE Up-to-date photo studio in good town of 5,000 population, San Joaquin County. Must sell at once on account of health. \$500.00 cash, \$550.00 terms. Address E. E. X., care "Camera Craft," San Francisco, Cal.

EXCHANGE Pixie Vest Pocket, roll film, lens f-6.3, shutter hundredth of second, focuses 9-inch up, extremely compact, in pouch case, new; for 1A Graflex with or without lens. W. H. Ribble, 290 Lawrence Ave., Detroit, Mich.

FOR SALE 8x10 Cooke portrait Anastigmat, brand new. Cost \$120.00, will take \$85.00. 8x10 Premo View camera, double anastigmat lens, tripod carrying case. Like new; \$48.00. H. W. Pfeil, 21 Main St., Champaign, Ill.

NEW CAMERA For 5x7 plates or film pack, good lens, long draw, copy and enlarge; list \$33.00, my price \$16.50. Newberry, 1458 Haight St., San Francisco, Cal.

POSITION WANTED By young man in studio. Have had three months' training in the Illinois College of Photography and will have to make more money to finish my course. Am willing to work any time, no bad habits. Address J. C. R., No. 413 S. 4th St., Effingham, Ill.

FOR SALE "Dutchess" Ensign camera complete with carrying case, 6 plate holders, and film pack adapter. Carl Zeiss-Tessar f-4.5 lens with focal plane shutter, ½ to 1/2500 second, size picture 1¼x2¾. The finest pocket kodak made, in perfect condition, only slightly used. Cost \$75.00; will sell for \$55.00. E. C. Wilson, 734 So. Berendo St., Los Angeles, Cal.

FOR SALE 3 electric flash bags with all wiring; in perfect order. Can be used separate or together, suitable for large groups and banquets. \$18.00. Address F. V. Shaw, 124 Sunnyside Ave., Oakland, Cal.

POSITION WANTED By Japanese, first-class retoucher; work by piece. Address N. F., 1948 Bush St., San Francisco, Cal.

FOR SALE No. 3 Vitax Portrait lens and New York Studio outfit. Heatherington window accessory. Cooper-Hewitt light, three tubes, two rectifiers. Richard H. Smith, Missoula, Mont.

SALE OR EXCHANGE A stereo Hawkeye No. 4 with matched Cooke lenses, carrying case and direct and mirror finders. Cost \$104.00, will take \$70.00 or will exchange for a stereo plate camera with equally good lenses. F. F. Wood, Mayfield, Cal.

POSITION WANTED By young man, 26, expert Kodak salesman, understanding motion picture apparatus and projectors. At liberty after November 1st; over 5 years' experience; references from New York's largest houses. Address Technical, care "Camera Craft," San Francisco, Cal.

POSITION WANTED By young man with six years' experience in outdoor photography, Kodak finishing, copying, etc. Describe the job, and, if satisfactory, I will send references and samples of work. H. C., Box 637, Dallas, Ore.

POSITION WANTED As retoucher, operator or general assistant. Six years' experience. Address F.5, Buena Vista Apts., Portland, Ore.

POSITION WANTED In the West as retoucher or general assistant, at once. Address T. W., care "Camera Craft," San Francisco, Cal.

POSITION WANTED By experienced young woman photographer. Can do any branch of the work. Western States preferred. Address B. X. T., care "Camera Craft," San Francisco, Cal.

SALE OR EXCHANGE 4x5 Kodak and outfit, also 4x5 triple extension Premo f-6.3 lens; violin, shotgun, typewriter, microscope, etc. Cheap or exchange for what? Dr. Herrmann, 4656 Ellis Ave., Chicago, Ill.

FOR SALE Elegant vacant studio after September 20th, located on thriving business street in Minneapolis. Everything modern and up to the minute. Rent very low. Good opportunity for some one. Address A. Backdahl & Co., 313 Washington Ave. So., Minneapolis, Minn.

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SAN FRANCISCO
CALIFORNIA

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PORTRAIT OF A CHILD
By W. E. DASSONVILLE



CAMERA



CRAFT



A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor

CLAUS SPRECKELS BLDG.

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No. 11

Two Photographic Utilities

By E. Wesley Lidaker, I. P. A. 3523



With Illustrations by the Author

The following suggestions may perhaps help out some fellow amateur; and, while primarily intended for the amateur making film negatives, they can easily be adopted by the user of plates.

A printing mask is a necessity if one would make his prints pretty and attractive with neat, uniform white borders or margins. With the help of the mask, any smaller size or any shaped prints can be made, regardless of the size of the negative. This is the generally accepted use of the mask, but with the writer the mask serves another and equally important purpose, that of properly anchoring, as it were, the negative in the frame, and holding it securely in position for printing, and serving also as a guide for placing the paper.

To make and use a mask cutter, proceed as follows: Assuming negatives are the popular $3\frac{1}{4} \times 5\frac{1}{2}$, a 5×7 printing frame should be used. Procure a piece of five-eighths inch smooth, tough poplar wood about 7×10 inches. On the face of this rule a true straight line through the middle of its greater dimension. These, shown plainly in the illustration, serve as a guide line when placing the mask paper and pattern in position. Next, rule true sharp lines, crossing each other at right angles, as shown, across the board to form three separate and distinct rectangular parallelograms, 5×7 , 4×6 and $3\frac{1}{4} \times 5\frac{1}{2}$ inches, respectively. These last are to be used as guide lines when cutting and ruling masks; the outer series being the guide lines for trimming off the outer edges of the mask; the middle or 4×6 lines being guides for ruling similar lines on the face of the mask, while the inner or $3\frac{1}{4} \times 5\frac{1}{2}$ lines are the guide for $3\frac{1}{4} \times 5\frac{1}{2}$ prints or for post cards.

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Next procure small pieces of three-sixteenths inch hardwood to be used in making the patterns. Cut them square, oval, diamond, or any shape and size to suit the fancy or fill one's requirements. Rule a true line lengthwise across the face of each pattern, this line to be placed directly over the middle line ruled lengthwise across the face of the foundation board just described when mask is being cut. Bore small holes about three-eighths inch from each end of the pattern, and directly through the ruled line. Place the pattern upon the face of the foundation board, line over line and properly spaced as regards the ruled guide lines already on the board, and drill small holes in the latter from directly through the holes in the pattern. When cutting a mask, the pattern is screwed to the foundation board, with the black paper between the two.

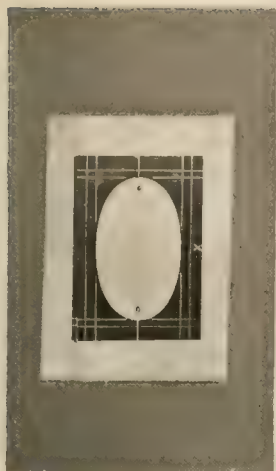
Procure some carbon black cover paper such as is used for loose-leaf albums and cut them into pieces a trifle larger than 5x7 inches. Use two pieces for each mask. Across one piece rule two true parallel lines a trifle more than three and five-eighths inches apart, the width of the film; these lines serving as guides in applying the adhesive used in joining this piece to its corresponding one to form the pocket-like mask for the film. Upon the reverse side of this first piece of paper rule a single line exactly midway between the two parallel ones already ruled. This will be the guide in placing the paper on the foundation board to be cut, trimmed and ruled; and, when so placed, its guide line should correspond exactly with the ruled line thereon and with the one on the pattern. Cut a strip of paper the width of a $3\frac{1}{4} \times 5\frac{1}{2}$ film, place it over that part of the mask forming the pocket and apply gum or liquid glue from its edges outward. This strip protects that part of the paper coming inside the pocket and assures true parallel margins. Take the other mask paper and place it directly over the one given the gummed margins, and press down firmly. These glued-together pieces are next placed on the foundation board with the pattern on top, care being taken to have all guide lines superimposed. With two small wood screws, attach the pattern to the foundation board with the mask papers between. Using a sharp-pointed knife and a good brass-lined ruler, trim away the edges of the mask to the outer 5x7 guide lines on the margin of the foundation board, making it a true 5x7 that will exactly fit the printing frame.

Next, with a white marking pencil, rule two squares on the face of the mask, using the exposed ends of the lines on the margin of the foundation board as guides, the purpose of these lines being obvious. With the sharp knife, run around the pattern, be it square, oval, or otherwise, until cut through, when the pattern can be removed and the mask is ready for use. The white margin around one's prints will be true and neat in proportion as one has been true, neat and painstaking in doing the work.

The writer has made for his own use quite an assortment of both square-cornered and oval masks of this pocket form. When ready to make up a batch of prints, his negatives are slipped into the masks having the desired openings, care being taken to see that the emulsion or dull side of the negative comes with the ruled side of the mask. To change from one mask to another is simple, easy and rapid, while a true position of the negative is always assured.

To use, simply throw—yes, throw—the masked negative into the printing

TWO PHOTOGRAPHIC UTILITIES



A PRINTING MASK




A FOLDING CHEESE-CLOTH PRINT DRIER

frame, ruled side up; do the same with a sheet of 5×7 paper, close the back and expose. Or, if a 4×6 sheet of paper gives the desired white margin, place it over the white outlined middle square and apply the back. A $3\frac{1}{4} \times 5\frac{1}{2}$ piece of paper or a post card goes over the inner ruled square, of course, giving one only a narrow border of white around the print.

A folding cheese-cloth print drier or stretcher is a great convenience and not difficult to make. All that is needed is a yard of cheese cloth, some strips of $\frac{1}{2} \times 5\frac{1}{8}$ poplar wood, six $\frac{1}{2} \times 3$ brass hinges and the necessary screws. The size of the frame is governed by one's requirements, but the one shown herewith is $25\frac{1}{4} \times 27$ inches. For this were taken two pieces of the poplar, each twenty-seven inches long, to form the side bars. Four similar pieces twelve inches long were hinged together in pairs to form the struts, which, in turn, were hinged to the two side bars at a point about six inches from their ends, care being taken to keep these end hinges inner side and the central ones on the opposite and outer side. So constructed, by simply pushing in on the center of the struts they will fold together in the middle and the side bars will come together; in short, the frame is so constructed as to be easily collapsible.

With the cheese cloth ready, run a thin line of liquid glue on the inner edge of the side bars, partially fold the frame, bring the edges of the cloth around and under the side bars, and set the edges of the cloth to their glued side. The cloth, when thus applied, will be wound once around the side bars. When the glue has set a little, straighten the struts, thereby pushing the side bars apart. These struts, if properly hinged, will remain extended, giving one a nice taut stretcher, one that can be placed upon the backs of two chairs for use or folded to occupy but little space when not wanted.

The spirit of Photography is Light, whose adroit fingers can draw with a gentle suggestiveness or a bold and sparkling touch. It is a wayward sprite, playful, unexpected, splendid and impressive by turns, and it is apt to grow softly poetical towards evening.—ANTONY GUEST.



Cover Illustrations For Farm Papers

By Harry B. Potter



Illustration by Our Readers

EDITOR'S NOTE: *We would explain that Mr. Potter, in making these criticisms, is doing so at our request and not through any desire to pose as an authority on photographic practice or as one capable of advising just how even his own requirements in the way of suitable pictures for farm paper covers can best be met. He was asked to point out, for the benefit of our readers, the main shortcomings of the fourteen pictures reproduced herewith. The worker who will try to produce something in the way of a farm picture that has none of the faults pointed out by Mr. Potter will be in a fair way to supply the wants of some farm publication in the matter of a cover illustration.*

The following criticisms are offered, and offered gladly, for whatever use they may be to the readers of CAMERA CRAFT. My lack of knowledge concerning photographic practice, its possibilities and its limitations, necessarily makes it impossible that they be complete. I shall set down my ideas just as they come to me; and, feeling that they may sound harsh, allow me to say that my desire is only that I may be of assistance in pointing out faults that should be avoided. I feel quite disinclined to discourage those who are attempting to make pictures of farm scenes; and yet, discouragement alone awaits the worker who fails to realize the shortcomings that I must point out.

No. 1: Judging from its softness, an enlargement from a small negative, and the figures are not distinct and definite enough for satisfactory reproduction. Just as one picture out of a portrait photographer's samples has no interest except to the family and friends of the subject unless that subject be a somewhat striking character, this picture of a mare and colt does not have general interest as would one of particularly fine or characteristic specimens.

No. 2: This, in common with others of its small size, loses a little too much in enlarging to be satisfactory as a full-page illustration. While pictures for cover illustrations should not violate ordinary rules of composition, good composition and artistic quality alone do not make them suitable. The several elements entering into this composition are not in their natural position relative to each other. Some of these were evidently brought to the shock of corn and placed as pictured for the sake of artistic make-up, although the photographer failed to get the desired result.

No. 3: The idea conveyed does not harmonize with the aims of a farm publication. The photographer has tried, and succeeded quite well, in making a pleasing picture of a deserted or run-down farm home. The same success achieved in the portrayal of a well-kept and evidently prosperous rural home, with a few figures included, and occupying an upright form, and a picture worth considering as a possible cover illustration would result.

COVER ILLUSTRATIONS FOR FARM PAPERS



No. 4: Clearly not a good picture photographically and unsuited also on account of the lack of value possessed by the subject itself.

No. 5: A good picture of a common farm scene, but should be an upright. Could be given a touch of human interest by having the binder halt for a moment and a child, properly dressed, handing the driver a refreshing drink of water or doing some such quite natural service. But, in changing a picture in this way, one must be careful that it does not become distinctly "posed."

No. 6: Slightly interesting, but would have been more so if only one, or probably two, figures had been used. There is nothing in this, as well as in some of the others, to make the person viewing it at all desirous of seeing the original or a similar scene.

No. 7: Too distinctly a posed picture with the background and the figures too closely blended together. Portraits or pictures of children are frequently acceptable, but the figure or figures must in no way suggest the presence of a camera and the background should be apart and distinct as well as of an obviously rural character.

No. 8: Quite a good picture, but the slanting lines of the corrugated siding are quite annoying and to that extent detract from the pleasure the picture might otherwise give.

No. 9: A picture having the merit of the figures being absolutely unconscious of the camera and intent only upon their own affairs, and a picture also

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having some little human interest. However, it has only a slight claim in the matter of being appropriate for a farm paper.

No. 10: Another having the wrong shape. The unconscious and intent attitude of the children is extremely interesting. The subject is a good one and might quite easily be developed by a few trials. Like some of the above, print is somewhat too soft to enlarge and reproduce well.

No. 11: Another good subject that might be worth trying to develop. The chickens, the important part in our case, are blurred both from being slightly out of focus and through too long an exposure permitting motion. For farm paper use, such animal life as is shown should be clear and distinct to be interesting.

No. 12: About the best of the lot and might be satisfactory as a cover illustration, despite the fact that it is more suggestive of the home than of the farm itself. Its acceptance by a farm paper would of course depend upon the theme being presented and the general character of the particular farm paper in question.

No. 13: Better suited to the cover of a magazine of general circulation or to a calendar than to a farm paper. While the subject might be the member of a farmer's family and the setting a portion of his home, the fact is not made quite plain; and even if it were made obvious, the scene is more of a home than a farm one. As a picture it is excellent.

No. 14: This might perhaps be used, but the theme is extremely hackneyed and the surroundings not of the character to present farm life at its best. The picture is well taken, the subject unconscious of the camera and intent upon her own work, and the form and size of the print are right.

By way of criticism in general I would say that even with professional photographers included in the list, seventy-five per cent of the photographs received by editors during a year cannot be used for the simple reason that the pictures are not suitable for reproduction in halftone. Out of the other twenty-five per cent, fifteen per cent are unavailable because of the human or animal figures put into them being of an uninteresting character, or being too obviously posed, and another five per cent are out of the question because of their composition. From the remaining five per cent, the editors must choose for the particular themes which they desire to present to their readers, these themes frequently being required to correspond with topics being featured in the body of the publication. While it occasionally happens that a picture is produced that I believe would secure the enthusiastic approval of practically every editor of a farm publication, the making of good pictures of farm scenes which will run the gauntlet of editorial ideas prevailing in the average editorial office, is no small task. The amateur no doubt is closer in touch with suitable material than is any professional, but the latter seems more capable of better appreciating the actual requirements. Pictures sent by amateurs do, in a large number of cases, contain material that could be used to great advantage, if the worker had a better understanding of farm paper requirements. It is information along this latter line that I believe Mr. Clute is trying to place before his readers.

PHOTOGRAPHY WITH MAZDA LAMPS

After all this has been explained, another question must be taken into consideration, and that is the supply which the editor already has on hand for future use. Just as in an ordinary exhibition, the amateur must make an exceptionally good picture of a creek or roadway scene, because these are quite hackneyed, so he may find that some particular subject sent to the editor of a farm paper simply comes into competition with something a little better which the latter may already have on hand. For this reason my advice would be that unless an exceptional opportunity presents, the worker attempting pictures suitable for farm paper covers should avoid the more hackneyed subjects and try for those that may have the added interest of some degree of novelty.



Photography With Mazda Lamps

By J. G. Boyd



Illustrated by the Author and Others



PORTRAIT OF THE AUTHOR

Within a very recent period of time, development work in the manufacture of incandescent electric lamps has contributed greatly to their adoption by not a few cameraists in lieu, in many instances of solar light. The object of this article is to place before the fraternity some of the alleged merits of this modern illuminant, and particularly that of the most recent type, known as the "C" Mazda lamp.

This "C" lamp is one employing a certain gas instead of the former vacuum for incandescence. They are well adapted to studio and home portrait work as well as the general illumination of interiors for photographic purposes; while, in the case of bromide enlarging, they leave but little to be desired. Due to the higher color value in-

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herent in these lamps, the resultant pictures are considered by some as superior to those produced under mercury vapor lights.

Early in the current year a new hotel in Detroit, the Statler, was most successfully photographed with three of the seven hundred and fifty watt "C" Mazda units with an exposure of twenty minutes at an aperture of f-32. One of our largest manufacturers of photographic apparatus unhesitatingly pronounced the pictures the best work of the kind he had ever seen. Twenty minutes' exposure at f-32 is not slow work for an interior subject, even when solar light is employed; hence, when it is considered that ordinary commercial



INTERIOR, THE STATLER, DETROIT—Photographed with three "C" Mazda lamps, exposure twenty minutes at f-32.

incandescent electric lamps were used, the feat certainly smatters of epoch-making.

When employed for portraiture, two or more units of the one thousand watt "C" lamps are recommended. At an aperture of f-4.5, exposures, fully timed, are being made in less than one second. If the reader will kindly take into consideration the very small period of time required for a fully timed exposure, he will at once see that even when employing more than two lamp units, the meter registration for one, two, or three seconds is not inviting immediate financial disaster. Supposing that the photographer pays ten cents per thousand watts for his current and uses two thousand watts for one second; he can very easily determine just what the cost for "juice" will be. One should remember that it is unnecessary to use the large units for arranging the composition.

PHOTOGRAPHY WITH MAZDA LAMPS

These preliminaries can be performed by aid of the regular studio or home illumination, the Mazda units being used only for the negligible portion of time required in making the actual exposures.

Another feature that has been highly commended is: With the "C" lamp, when inclosed within a special blue bulb, as sold under the trade name of "Photolite," retouching of the negative is reduced to the minimum. Work made necessary in order to correct defects inherent in other forms of illumination that are richer in blue, violet and ultra-violet rays, is not required. This Photolite lamp supplies a steady, cool, silent, intensely actinic flux of light that is under



INTERIOR, THE STATLER, DETROIT—Photographed with three "C" Mazda lamps. Exposure twenty minutes at f-32

the operator's control at all times, thus affording any desired shadow effects, either luminous or massed as the operator may elect. As all the visible rays of the spectrum are present, it is clearly obvious that both the portrait and commercial photographer are made entirely independent of daylight with its inherent fluctuations and annoying changes during brief intervals of time.

The following table of exposures, supplied by the manufacturers of the lamp, furnishes graphic evidence of the utility of the "C" Mazda units:

2 lamps,....f-7	stop,....bust,	black background,....	1 second
2 lamps,....f-10	stop,....bust,	black background,....	2 seconds
2 lamps,....f-7	stop,....head,	medium background,...	1½ seconds
2 lamps,....f-16	stop,....group of 15...	medium background,...	4 seconds
2 lamps,....f-4.5	stop,....child,	light background,....	¼ second

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Taking the group exposure of four seconds and assuming the cost of "juice" to be ten cents per one thousand watts, it is seen that the cost for the plate exposure was only one and one-third cents, being an amount less than would be the cost of the necessary flashlight powder.

In order to secure the maximum benefit from Photolite lamps it is imperative that one employ the reflector designed especially for use in connection therewith. Any old tin can will not prove effective. Remember, please, we are discussing highly efficient scientific developments as substitutes for solar light; hence, if one does not feel disposed to secure the proper equipment, common sense dictates it is more prudent to completely reject the entire plan. Even if one does install the complete equipment, success does not necessarily follow such installation merely because the apparatus has been made available. Harsh lighting will quite surely follow the use of these lamps if the operator is ignorant of the fundamentals of lighting and composition. The lamp will not supply the gray matter required in handling these and other details. If care is not exercised in properly placing the units in regard to distance from and angle of illumination of the subject being photographed, there is none other to blame than the user. Moreover, the selection of the lamp for the circuit voltage at the point of use might be such as to greatly negative possible results. Loose connections, too small wires leading to the lamp, lamps of a voltage above that of the circuit voltage, or anything else that will reduce the voltage at the lamp, will have a ten-

"YOU GROWN-UPS ARE FUNNY"



dency to degrade the actinic quality of the resultant light. As the latter fall off in actinic value, compensation can be made by longer exposures, but how to compensate for the degrading of tonal values due to such drop in voltage is not so apparent. Hence, in ordering lamps or units of this type, great care should be exercised to ascertain that the lamp voltage is adapted to the particular circuit on which it is to be used. One should not accept the unchecked declaration of the electrician that voltage of the circuit in question is thus and so. Each Photolite used passes, substantially, ten amperes of current. Hence, the circuit wires must conform with the rules of the fire underwriters in every case. If but one lamp or unit is to be used and the wires are installed for that one unit only, do not add the second unit on those same wires. If, however, the wires were, in the original installation, calculated for two or more units and that

PHOTOGRAPHY WITH MAZDA LAMPS



PORTRAIT By TOWLES, WASHINGTON

PORTRAIT By MOORE STUDIO, CLEVELAND

We have no data concerning the first, but the second was made by Mr. Moore, whose studio is equipped with three one thousand watt Mazda blue-bulb lamps contained in a cabinet. The front of this cabinet is covered with tracing linen, this diffusing surface being approximately six feet square. The exposure given in the case of the portrait shown was two seconds.

number of units (or wattage) be not exceeded, then add other units at will. This admonition is worthy all compliance. Have some one of competent knowledge apply a voltmeter to the circuit and so ascertain the fact. Remember, an elephant can carry a man's load, but a man cannot carry an elephant's load.



TWO EXCELLENT PORTRAITS MADE WITH MAZDA LAMP EQUIPMENTS

CAMERA CRAFT

Now, let us give a little consideration to the opposite of this under-voltage phase. In order to secure the greatest efficiency, it is recommended that Photolithes be operated at over-voltage, e. g., one hundred and ten volt lamps on lines whose voltage is known to be one hundred and fifteen. At first glance it might appear that the typesetter had reversed the figures. It means as stated, one hundred and ten volt lamps on one hundred and fifteen volt circuits. Such adoption increases the candlepower about seventeen and one-half per cent. But that is not all it does. It further tends to saturate the emitted rays with the blue, violet and ultra-violet of the spectrum. So we observe that, even though the over-voltage operation really did not increase the resultant candlepower, the improvement in actiniccy would justify the observance. The two effects added together increases the speed of the light about twenty-five per cent. That, of course, means that in the case of any given subject requiring an exposure of one second when the lamp is operated at normal voltage, but three-quarters of a second will be necessary when operating at the degree of over-voltage just advised. In the case of a frisky child, where a quick, unlooked-for movement is feared, this may mean the difference between failure and success. The expense of lamp renewal is never excessive where operating at over-voltage is practiced. The renewal cost per unit of earning will remain a constant per cent factor, no matter whether the business be great or small. Where one operator buys ten renewals per year while another buys but one, it means that the former is doing ten times the business of the latter and the two are on an equal basis.

In the enlarging field the Mazda lamp appears to be supreme, used either with condensers or used with only a reflector of some type. While both systems possess merits peculiar to themselves, the reflecting form will no doubt be less expensive and afford all desired satisfaction, particularly so if a diffusing tube (incorrectly referred to as cone by some writers) is used. In this day of the small camera, with the high-grade anastigmat lens commonly used, satisfactory enlargements are apparently limited only by the dimensions of the sensitive paper obtainable. No detailed description of the two forms of enlarging apparatus need be given herein for obvious reasons.

There is also the "Parallax" reflector claiming some considerable attention; and, where electric current is obtainable, it certainly possesses great merit. Condensers absorb some degree of the illumination they receive, sifting out some of the chemical rays, especially so when arc light is used, a defect not obtaining with the condenserless form of apparatus. In the latter type an annoying change in focus is, with some form of lenses, quite noticeable. By excessive stopping down, the trouble is reduced somewhat, but at the expense of more or less lengthening of the exposure time. Another peculiarity is frequently observable when enlargements are made on collodio-chloride or gaslight papers, as distinct from bromide papers. It is not unusual to find lenses unsatisfactory when enlarging on the former, but entirely so when the latter or bromide papers are used. The reasons for this will not be gone into here, and mention is made merely to emphasize that the lens or method of illumination may neither or both be to blame when the effects are observable.

When an enlarging apparatus employing condensers is the method adopted,

PHOTOGRAPHY WITH MAZDA LAMPS

then it will, perhaps, be prudent to use a "spot" light, a form of incandescent lamp wherein the filament is confined to exceedingly narrow dimensions. The smaller and more compact the limits of the filament, the better for condenser work. For that reason condensers do not work as well with upright gas mantles as they do with inverted ones. That form of "C" Mazda lamp known as the "concentrated filament type" is particularly recommended for use with condensers. In the reflecting type of enlarging apparatus where a so-called "cone" is employed, a lamp having the standard Mazda form of filament is preferred by the writer, who has not carried on sufficient experimental work to permit his choice resting with the concentrated form.

In using any reflecting form of apparatus, either a sheet of ground glass or flashed opal must be interposed somewhere between the negative and the light source. It does not seem to matter much just where it is placed, but its use is imperative. Ordinary ground glass passes only about sixty per cent of the impinging rays of light, yet some form of diffusing screen is essential, otherwise "ghosts" of the lamp filament are quite apt to be in painful evidence when the enlargement is developed.

The following tabulation as given out by "Cleveland," covering the production of satisfactory, four-diameter enlargements, will doubtless prove interesting. The arc light was an alternating-current one using five-sixteenths inch carbons.

Mazda lamp.....	500 watts,....	Azo paper.....	Condensers only.....	3 minutes
Arc light.....	750 watts,....	Azo paper.....	Condensers only.....	3 minutes
Mercury vapor.....	385 watts,....	Royal Bromide,....	Ground glass only.....	25 seconds
"C" Mazda lamp....	500 watts,....	Royal Bromide,....	Condensers only.....	½ second
"C" Mazda lamp....	500 watts,....	Royal Bromide,....	Condensers with g. g.,....	25 seconds

In each case the wattage comprehended total energy taken from line, wattage which the meter recorded. It may not be generally known that the approximate amount of energy used by the arc itself is only about one-half that taken from the line and such total energy registered by the meter. In one instance, making a four times enlargement on Royal Bromide with a five hundred watt "C" Mazda operating at normal voltage, one-quarter second gave an over-exposed print. The same experiment, made on No. 5 Monox with the exposure reduced to less than one-half, gave a fully timed enlargement.

If too great speed results when employing Mazda lamps, recourse can be had to a lower wattage lamp with its consequent saving in electrical energy registered by the meter. When other forms of electrical illumination are used and the speed is found too great, the wattage at the lamp can be reduced only by cutting in a rheostat with a consequent unchanged meter registration. Employing two hundred and fifty and five hundred watt Mazda lamps, operated at from eighty-three per cent to one hundred and twelve per cent of normal voltage, it was well established that increasing the voltage on the lamp from five per cent below to five per cent above normal voltage practically doubles the speed of printing. It was further found that the introduction of ground glass with condensers had the effect of softening the picture, i. e., there was more detail and luminosity in the shadows and the high lights were less chalky. The printing time without ground glass was only about two per cent that necessary with ground glass.



Making The Movies

By Scott Leslie



To start with, the moving picture negative is made on a long strip of celluloid film, coated on one side with a photographic emulsion the same as the film used in a kodak, an emulsion so light-sensitive that it cannot be exposed to white light without destroying its usefulness. This negative film comes from the makers in two hundred and four hundred foot rolls. I always use the shorter ones, as they run through the camera easier. The width of the film is one and three-eighths inches, but the actual width of the picture is only one inch; the three-eighths of an inch is given up to two rows of little sprocket holes, one on each side, provided for the purpose of moving the film through the camera.

In my dark-room, lighted only with a small ruby light, I take the roll out of the can or container, and load it into a film box. One end is allowed to extend out through a narrow, plush-lined slit that prevents any light entering the box at that point. The lid of the box fastened shut, it is then ready to be taken into the daylight, as only the short piece of film extending out through the slit can be spoiled. In the top of the camera is a place to receive this film box. Clamping it in place, I next "thread up" the exposed strip by passing it between several rollers and over sprocket wheels down into a second box at the bottom, making it fast to an empty film spool therein. Locking the lid of this box as well as the side door of the camera, the instrument is loaded and ready for the making of the picture.

The front of the camera is fitted with a fine lens, as the little pictures have to be taken at a high speed and they must be absolutely perfect in order to stand the enlargement of about eight thousand times required when shown upon the screen. The tripod used must be as steady as a rock and weigh like one as well.

For the purpose of focusing there is a brass tube extending from the lens clear through to the back of the camera. The eye is placed at the end of this tube and the lens racked back and forth until the subject is sharp and clear. The lens aperture is then cut down to correspond with the light condition, the focusing tube closed up, and one is ready to proceed with the actual taking of the picture. Just back of the lens is the shutter, a round piece of sheet metal with about one-eighth of its area cut away in the shape of a V. As this shutter revolves in front of the lens, it cuts out the light, while two metal fingers draw down the film three-quarters of an inch, the space of one picture. As this new portion of film comes into place, the opening or V in the shutter flashes past the lens and in that flash the sensitive film has caught everything in front of the camera, and this is repeated sixteen times a second.

The turning crank, located on the right-hand side of the camera, is geared to the mechanism in such a way that with each turn of the handle the shutter makes eight revolutions, the film moving down each time, and eight pictures are

MAKING THE MOVIES

taken. Turning this crank at the usual speed, twice every second or a hundred and twenty turns to the minute, produces sixty feet of pictures. That sounds quite easy, and really, the taking of the pictures is not so very hard after one learns how. But, when something goes wrong with the works—then it is a different matter. Get in the middle of a picture, a parade or something that cannot possibly be taken over, and then have something happen. Believe me, one will use up some nerve energy in trying to get things working again.

There are two methods of developing the motion picture film. One is to wind it onto large racks, so large that cypress tanks holding about seventy gallons are required to accommodate them. These tanks require a lot of developer, but they are all right for the large companies who develop several thousand feet of film a day. For small lots of one thousand feet or less, I believe what is known as the rack and pin system is the best, and it is the one I use. Its great advantage is that it necessitates tanks holding only about four gallons of developer, making it not too costly to use fresh developer for each batch of film. In a hot climate this is a wonderful advantage. The rack is a wooden X or cross with the upper side of each of the four arms studded with pins about two inches high and about half an inch apart. The rack in use is placed on a revolving table, one end of the negative film is fastened to the center pin and then threaded around and around from arm to arm until the end is reached, care being taken not to let the film wind onto any pin a second time. Each rack has a capacity of one hundred and fifty feet and it takes about fifteen minutes to thread it up, and all of this work has to be done in a dark-room with no light except the ruby lamp.

With the film threaded up, the rack is placed in the tank containing a developer made according to what is known as a twenty-minute formula, that is, one that at the end of twenty minutes should give negatives properly developed. However, as the film may possibly have been a little over or under exposed, development should be watched continually and when the negative is the right density it should be removed from the developer and washed quickly in clear, cold water. Following this washing, the rack is placed in the hypo, or fixing bath. This removes the sensitive salts that were not affected by the light during exposure, leaving only the blackened or developed image, after which the strongest light can have no further effect.

The developer bath is kept at a temperature of sixty-five and the hypo at one of fifty-five degrees, so plenty of ice has to be used in the dark-room, particularly in warm weather. After thirty minutes in the hypo, the film is thoroughly fixed, when it is removed and placed in the washing tubs. There it is immersed in running water for at least one hour, so that all trace of the hypo is removed. Any of this fixing salt allowed to remain will eventually spoil the negative film. For my film washing I use a tank holding one thousand gallons of water that has to be strained to prevent dirt or sand getting onto the film. I have six racks holding one hundred and fifty feet of film each, giving me a capacity of nine hundred feet a day; and, as I have never yet washed a batch of film without emptying the tank, I use over a gallon of water to every foot of film.

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When washed, the film is ready for the next step, the drying drums. These last are large cylinders made up of smooth slats. The film is attached at one end and the drum turned around, winding on the long ribbon of film as the latter is revolved, care of course being taken that the film does not overlap at any place.

I always do my developing at night when there is little or no dust, as one simply cannot have dust about while drying films. Some of the larger companies do their developing in the daytime, admitting only filtered air to avoid danger to their film from dust. Tiny specks of dust on a negative will make spots on the positive, that, when enlarged on the screen, appear as serious blemishes. Next morning the dry negative is taken from the drums; and the next job is to run through it all and cut out the defective and undesired portions.

The making of the positive film, the one used in projecting the picture, follows. The printer is a device made up of rollers, wheels, light box, motor, etc. At the top is a rack to hold the roll of negative and the roll of positive film. The ends of the two are threaded through the wheels and rollers much the same as through the camera, the two strips enter and pass through a slit in front of a light-tight box. This box contains the electric light that does the printing, the light shining against the slit through which pass the two films. The two films run with the negative one towards the lamp, so that the light passes through it and so prints one positive film. The amount of light to give is decided upon, the motor started and the mechanism slowly moves the two strips of film past the light.

After the positive is printed, it has to go through the same developing, fixing, washing and drying of the negative film. It is then ready to show except for the titles to the different scenes. To produce these last, white letters are painted on a black cardboard background and placed on a rack, where they are photographed in the same manner as the pictures. About ten feet of film is used to keep an ordinary title running long enough to be read. When these also are developed, printed and dried, the positive film is cut and the title film cemented in in the order it is to appear upon the screen, first a title, then the picture, another title, more picture, and so on until the whole reel of one thousand feet is joined together.

The finished positive film is run onto a steel reel, from which it is threaded up onto the projecting machine at the theater. The powerful light is turned on and the operator turns the crank. For the proper projection of the picture the operator must turn his crank at the same speed employed in taking the picture; then, as the ribbon of celluloid flies past the light, every motion and action appears true and lifelike.

Unless one is in the motion picture business, he probably does not know that while the scenes are unfolding on the screen before him, the screen is entirely black one-half of the time. I will have to let the explanation of this go for the present, but in another article I will tell how the motion picture came to be invented and why it is that the screen can be black and blank for a part of the time without our realizing it.



A Simple and Efficient Drying Box

By Earl G. French



With a Drawing by the Author

Each and every "bug" of the genus "Camera," I venture to say, has at some time or other nearly lost his religion, and muttered things within himself regarding the large amount of "wet" in water. This applies to the lucky "bug" who owns several expensive outfits, as well as to the common garden variety, who merely owns a piece of window-glass located somewhere near the north end of a black box.

You're right; I do not except myself at all.

Recently the writer had occasion to get out a bunch of double-weight 8x10's in a hurry. While thus engaged, he became convinced that his method of using blotters and patience, to separate a few prints from among a lot of water, was very much in need of improvement. Of course he had thought the same thing for quite a while back, but apparently the delay on this particular occasion was the stimulus required to effect a change. At any rate, he held a consultation with himself that ran something like this:

He: "There's nothing to it, we've got to change this doggone system."

Himself: "Right-o. You said an armful that time. Where do we start?"

He: "Well, we have to get some heat, and we want it fairly hot."

Himself: "Yes, I guess so. And another thing you have to do is make a box. You don't want to heat up the whole cellar to dry a few prints."

He: "Guess that's right. Well, let's see what we can do out."

So they went at it, and the excuse for this article is, that the drier they built may be of interest and service to other "fans" as well as to the man who gets real money for his work.

You do not have to make your drier the same size as this one. Figure out how much drying area you require and build accordingly. Also take into consideration the amount of room you have to spare in your dark-room. My own is in the cellar and space is valuable. Therefore, I figured on hanging the drier on the wall, and using the developing table to support the lamp used as a heater. The lamp and chimney can be detached and put out of the way when the drier is not in use.

Get hold of a box some place. Any kind will do so long as it is fairly air-tight. Mine is a packing case of matched lumber, twenty-six inches long, eighteen and one-fourth inches wide and thirteen and one-half inches deep. These are inside measurements. This size box will hold thirty-five 5x7 prints, and proportionate number of other sizes.

Procure some fairly stiff galvanized iron and cut it into rectangles, 11x3

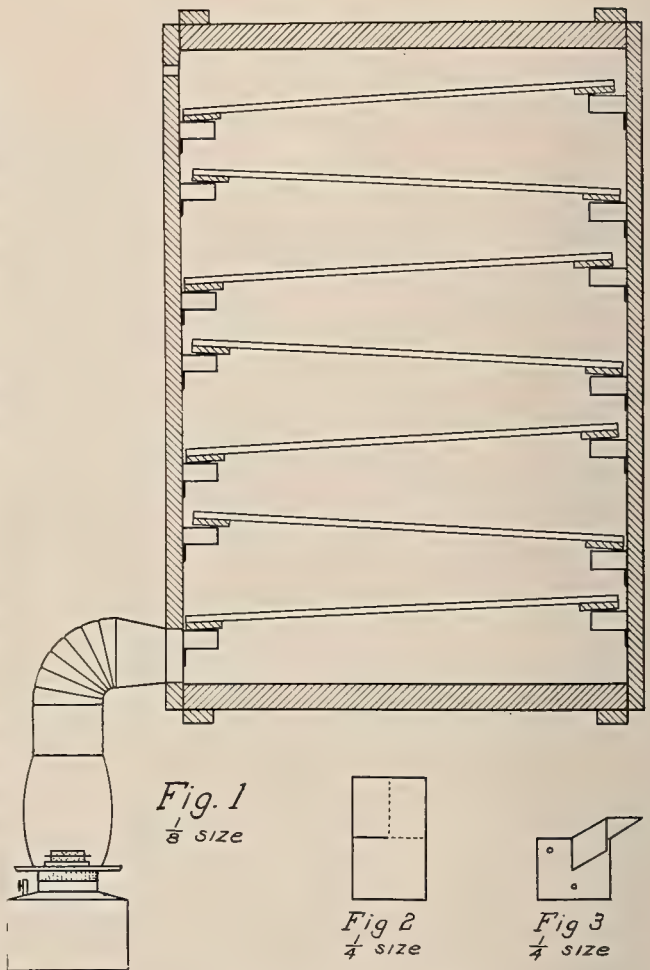
inches, as shown in Fig. 2. Make a cut half way through at the center of the longer side as shown by the heavy line and then, with a pair of flat-nose pliers, bend into the form of bracket shown to the right. The dotted lines show where bends are made, first by bending over the upper left-hand quarter at right angles and then bending that entire end down at the same inclination, forming a bracket as shown in Fig. 3. You will need twenty-eight of these, each frame requiring four brackets. Three holes for nailing are ample.

With the selected box standing upright, the opening to the front, cupboard style, start at the near lower, inside, left-hand corner and measure up two inches on the side-wall. Mark that point, and also four and one-half inches

above the first one; then two and one-half inches above the second, continuing making these marks alternately four and one-half and two and one-half inches apart until the top is reached. If your box is the same size as mine, you can get in seven marks and have a three-inch space left at the top.

Take the opposite side the same way, but make your first mark three inches from the bottom, then two and one-half, then four and one-half, and alternately two and one-half and four and one-half until you have seven marks on that side. Take your square and extend the marks on both sides to the back of the box.

Rule a line the full height of the box just inside and two inches from the front. Also another line two inches from the back on the same inner sides. At the intersection of these upright and cross-wise lines, nail your brackets. In other words, your brackets are nailed to the inside of the side-walls, keeping two inches in from the front and the back. If your side-walls are not too thick, long tacks clinched will do fine to nail your brackets. You will find that a frame resting on any particular set of four brackets, two on each side, will have a slope of one inch.



A SIMPLE AND EFFICIENT DRYING BOX

Now for the frames. Get a few lath and plane them smooth on all four sides. Any strips of similar size will do. Cut twenty-eight pieces, fourteen of them seventeen, and the other half, thirteen inches long. Take two long and two short pieces and make a frame, being sure to nail the long or side pieces onto the short or end pieces as shown in Fig. 1. If you get the short pieces on top, the brackets will punch holes in the cheese-cloth. Your frames must be wide enough to come, when in position, flush with the front of the box. Do not mitre the corners or the joints will be weak. When your seven frames are completed, cover each with cheese-cloth on the top, placing the tacks on the sides. This will avoid marks on prints from rusty tacks a little later.

Your heating plant comes next. I use an old round-wick lamp that has done its part in cluttering up the attic for a number of years. However, it is not necessary to get one of this particular kind. Any lamp will do, so long as it has a fairly good-sized wick. Get an elbow from your plumber, one that will fit over the top of your lamp chimney. If it doesn't fit the top, slide it down until it is snug. Mine is three inches in diameter. Bend the other end into a rectangular opening approximately 2x3 inches, being sure that the two-inch side will be upright when placed on the chimney. Cut a 2x3-inch hole in the center of the lower left-hand side of your box, on a level with the bottom. This is where your elbow enters. Take a brace and bit and make four or five two-inch holes across the top of the same side for the escape of the hot air.

All you now require is a door on the front. This can be made out of the same kind of lumber as your box, or you can take some fairly stout cloth and make a curtain. If you decide on the latter, cut it large enough to give a lap of about one inch all around. Sew some small rings on each corner, and also half way between each corner on all four sides. Drive some small nails in the outer side of your box to correspond with the rings on the curtain. Put them far enough back to draw the curtain tight. This cuts off leaks. I use a curtain of this kind because it takes up less space.

The method of placing your frames on the brackets is most important. The lower side of each frame must be against the side-wall, as shown in the illustration. So placed, the hot air, as it comes from the elbow into the box, must pass along the bottom of the lower frame, up between the brackets, back across the bottom of the second frame, and so on, until it rounds the end of the seventh frame and passes out the vent holes at the top of the left side.

If your drier is built to hang on the wall, over a table, you can use a small box to bring your lamp up to the correct height. If no table is convenient, hang a small shelf at the bottom of the box, to extend to one side and support the lamp in the proper position.

When using this drier, place the previously blotted prints face down on the cheese-cloth and keep them close together. This latter prevents the hot air from passing straight up through the racks. You will notice that the hot air plays on both sides of each print. Those on the lower frames will dry faster than those higher up. When the lower frames get warm, switch them with the ones at the top. I found that the heat under the lowest frame was rather too hot, but remedied this by nailing a small piece of galvanized iron just above the inlet, deflecting the current of air to the bottom of the box. Your prints will

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likely curl somewhat, when dried by this method. Drawing the back of each over the edge of a table or similar object will remedy this.

When you want to dry films, remove all the frames. Put in a few screw-eyes on opposite sides of the box. Take some cord and fasten film-clips at proper distances to prevent interference of negatives. Bend some small nails to make hooks, and put a hook on each end of each string of clips. Each string should be just a trifle longer than the inside width of the box. Slip hooks through opposite screw-eyes, and your drier is equipped for films. You can put in as many strings as the size of the box will permit.

For drying plates, take out all the frames with the exception of the center one. Place a small board across this frame, and rest your plate rack on the board. Just a word of caution regarding drying films and plates. It is not advisable to apply too much heat, as the film is liable to run.

The foregoing may seem to you to be somewhat of a complicated job, but I assure you that if you have any knowledge of tools at all, you can put together a drier similar to this, in a couple of evenings. Make a start and I think you will not quit until you have finished. Then dig out a bunch of those negatives you made this summer and get some of them printed. It's lots warmer inside than out.



The I. P. A. State Albums

By Charles F. Rice



Every subscriber to CAMERA CRAFT is, without further payment, entitled to membership in the International Photographic Association. One of the most interesting, entertaining, instructive and helpful activities of this Association is the circulation of State Albums containing prints contributed by the members. If you would like to have further information concerning this subject, write to the undersigned, Album Director for New York State, enclosing two-cent stamp for reply.

P. O. Box 517.

CHARLES F. RICE,
Mamaroneck, N. Y.

If you were a subscriber to CAMERA CRAFT residing in New York State, it is very likely that you received a postal card printed with a message similar to the

THE I. P. A. STATE ALBUMS

above. Responding to the invitation, not forgetting the two-cent stamp, you would receive a letter something like this:

DEAR SIR:

In answer to your request for further information as to the State Circulating Albums of the International Photographic Association:

Any member of the I. P. A. may contribute prints for such albums by sending them to the State Album Director. If, in the Director's judgment, the prints submitted are worthy, he includes one or more of them in the current album, and places the name of the contributor on the route list. Each contributor in turn receives the album and is permitted to keep same for not over three days, then forwarding it to the next address on the route list. Several albums are issued each year; but not at stated intervals.

You are cordially invited to contribute one or more prints and to receive the album containing same. You can then see what the albums are like and can tell whether you would care to become a regular contributor. We have some very capable photographers on our list, and their prints are worth looking at. Prints sent to the Director should be not larger than 8x10; 5x7 or smaller are preferred. They should be unmounted, and on the back of each print should be given the name and address of the sender, together with full data in regard to camera, lens, brand of plate or film, exposure, development, printing medium, etc., and any other interesting information about the subject of the photograph, such data and information being included in a description of the prints which accompanies the album, making it instructive and helpful as well as interesting and entertaining.

Hoping to hear from you, with prints, at your convenience, I am,

Yours very truly,

(Signed with name and address of Album Director.)

This is one way we in New York State are trying to stir up interest in the circulating albums, a feature of the International Photographic Association which we believe deserves more attention than it has received.

You will note that every subscriber to CAMERA CRAFT is eligible to membership in the I. P. A., without further payment. This is the way we have approached the situation rather than to try to persuade those who are neither I. P. A. members nor subscribers to CAMERA CRAFT to part with a dollar in order to become a member of the I. P. A. and incidentally to receive a year's subscription to the magazine. It all amounts to the same thing, but we feel that subscribers to CAMERA CRAFT are already more than half way to becoming I. P. A. members, and that they deserve our first attention. Then, too, the fact that subscribers may become album contributors without any further payment is somewhat of an inducement. Of course, neither we nor our good friend, the Editor, will object if in gaining I. P. A. members new subscribers are secured for the magazine.

The general objects of the I. P. A. are thus stated in its prospectus:

"To afford its members an opportunity of exchanging through correspondence, photographs, stereoscopic views and lantern slides. To circulate albums of photographs among such of its members as may contribute prints for that purpose. To encourage and assist its members to the better enjoyment of photography, by affording that stimulus which association and example always provide. In enabling its members to form collections either of miscellaneous photographs, or of some particular kind, such as historical, typical or artistic, this society stands unrivaled. It is admitted by all that more useful photographic information may be secured by the exchange of prints than by any other method."

For several years I was an I. P. A. member and exchanged prints and

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correspondence with numbers of fellow members in various parts of the United States, with much satisfaction. But it was not until I became a contributor to the circulating albums that I fully realized that "better enjoyment of photography" and that "stimulus which association and example always provide," which are mentioned in the I. P. A. prospectus.

Of course, it is only true photographic enthusiasts, "bugs," who persevere at this sort of thing and become regular album contributors; and I should say it is only the buggiest sort of a photo-bug who would consent to be a State album director; which explains how it comes about that the writer is album director for New York State. And yet I get twice as much true pleasure out of the albums since I am director as I did when I was only a contributor.

We in New York State have lately been getting out an album every other month, but that is perhaps a little more frequently than would be possible or advisable to keep up, on the average. Frequency of issue depends primarily on how well contributors keep the director supplied with prints, but three, two or even one album a year that is really first-class would be better than to have the quality and interest suffer by attempting to issue them too frequently.

Sustained interest in the albums on the part of members depends on general quality of work submitted, good taste with which albums are prepared, and promptness with which they circulate. One skilled worker is very likely to lose interest if he finds nothing in the albums to compare with his own contributions. In New York we are fortunate in having several regular contributors who turn out really high-class work; and of these it is impossible to say that one excels the others. When this is the case, each contributor is continually striving to submit better examples of his work. Delay or carelessness in forwarding albums is to be guarded against in every possible way. It is up to the director constantly to impress members with the necessity of care and promptness. Even so, albums do occasionally go astray, and have been known to become lost. However, the danger of loss is practically nil if the director calls the delinquent to account when he fails to report the receipt and forwarding of an album. But you may be sure that a member repeatedly guilty in that direction is speedily dropped from the route-list.

Interesting as it is simply to do as we are doing in New York State, namely, circulate every few months an album containing miscellaneous photographs, there are countless possibilities for variation and extension of the album idea. There is the plan of having each album contain only photographs of a certain class, such as one with home portraits exclusively, another with farm scenes, interiors, etc., etc., thus affording a better opportunity for good-natured rivalry between contributors. It would be quite possible to award prizes for the best work, either in individual albums or in the albums of a whole year, with disinterested persons acting as judges. In fact, my good friend, Louis R. Murray, of Ogdensburg, former director and now State Secretary, has offered to donate a pair of white Angora rabbits as a prize in an album competition! A year or so ago, the New York group got out a special album with all hand-colored prints. Unfortunately this album got lost, strayed or "cabbaged," but the idea was all right, and we shall try another some time. Then there is the exchange

THE I. P. A. STATE ALBUMS

of albums between States, through the Chief Album Director; and only by the exchange of albums between different countries will the International Photographic Association justify its name, as far as albums are concerned.

Each album that we send out, in addition to the route-list, description of prints and letter to members, has a blank sheet for criticisms. The members seem a little shy about making entries on this last, fearing, I suppose, that unfavorable criticism may discourage some worker. A plan that appeals to me, one which I propose to try some of these days, is to encourage every recipient of the album, instead of sending his criticisms along with it, to mail them to the director; who, after gathering them all together and possibly exercising a little judicious censorship, will then send the album around a second time accompanied by the criticisms.

As I said before, it is only the enthusiastic photographers who will persevere in album work; but even so, it would seem that there ought to be a live bunch of twenty-five or so album workers in every State among the subscribers to CAMERA CRAFT. And it is my purpose by this article to attract to the albums and enlist in their behalf the interest of such subscribers as have not thus far been greatly impressed by this very attractive activity of the I. P. A. I assure you, it is worth while. Look up the I. P. A. notice in this number of CAMERA CRAFT and write to your State director or secretary. He will be more than pleased to welcome you as a contributor to the State albums. And if it should so happen that your State has no director or secretary, write to Editor Clute, and perhaps between you an album can be started in your State.

If you are a beginner, do not hesitate on that account. The albums would fail in one of their principal purposes if they did not provide a source of photographic instruction and inspiration to the one who is anxious to learn and improve his work. On the other hand, if you are an expert and a medal-winner, there is all the more reason why you should become an album contributor so that the results of your skill may stimulate others to higher attainments. If you are a professional photographer, do not let that bar you from the albums; be willing to share your ripe experience, and in return it is just possible that you may gain a point or two from your amateur brethren. Several professionals contribute regularly to our New York albums. They are among our most faithful and enthusiastic members, and they are always willing to "tell the other fellow how it's done."

Finally, one of the strongest appeals of the album work is the bond of good fellowship that is bound to grow between a band of congenial spirits working in a common cause.

I have always been an advocate of photography by rule and measurement, arguing that this was no detriment to artistic expression in one's work, and believing that Art and Photography, not being synonymous, should be studied quite apart. In other words, as photographic technique becomes perfected, so the artistic instinct finds more freedom for its expression with photographic media.—E. A. BIERMANN.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

TITLING NEGATIVES: Take old kodak film negatives and remove the image with ferricyanide of potassium and hypo. Then write the desired title in ink on the opposite corner from the one in which it is desired to print. Place the film face down on the negative and print through both. The thin celluloid will not cause any blurring of the image and the title will appear natural, not stilted, as is the case when one attempts to write backwards.—George Parke, Tennessee.

PHOTOGRAPHING MACHINERY: A little pan of lampblack and oil, mixed to a paste, is an excellent article to have handy when photographing bright steel parts on machines. It is easily applied and can be rubbed down to any desired density with the finger. Where the interior parts of a machine do not get sufficient illumination, wonderful results can often be secured by reflecting light where wanted with a mirror.—F. H. K., Wisconsin.

PHOTOGRAPHING SHEET METAL WORK: Most commercial photographers have had occasion to photograph a machine (usually painted black) with a bright galvanized iron hood, spout, dust pipe, or the like. Such an attachment is usually situated where the light reflects the strongest, with the result that it comes out as a white piece of iron in the finished picture. I find that by putting a coat of thin yellow shellac on such tin or galvanized iron parts I can prevent all halation and also bring out all detail in the iron. This coating does no harm and is hardly noticeable to the eye; but, should one want it removed, any suitable solvent can be used.—F. H. K., Wisconsin.

CONVENIENT RUBY LIGHT: I will sell my ninety-cent oil ruby light for fifty cents, pay the freight, and be tickled to death to do it, for I now have the best lamp I have ever seen for the small dark-room where electric current is nil. I bought a dry-cell battery lamp for one dollar and fifty cents, took a piece of ruby glass I had lying about, cut it as round as I could with a glass cutter and finished on a carborundum stone in the local implement shop. With this I made a cap to fit over the light of the battery lamp, then shouted, "Eureka!" Anesthetics were declared a success after the first trial by a noted physician. That's me; not a noted photographer, but the first trial and the declaration. It does not smudge, smoke, give one oily fingers, and it can be taken to any part of the room without fear of a spill. It cannot explode, gives a fine light, and can be held over the tray to examine the plate without lifting the latter and getting wet fingers. One can turn it on and off with the thumb, giving perfect darkness when light is not wanted, and by taking off the ruby cap one has a fine white light. A battery will burn from thirty to fifty hours, and that will be a good long time over the developing tray.—C. R. Lowe, Nebraska.

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A PHOTOGRAPHIC MONTHLY

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No. 11

That Competition of Ours

As promised, our readers have, in this issue, Mr. Potter's criticisms of a few of the prints sent in. With these, with our own efforts along the same line in the preceding issue, and with the reproductions of four pictures that have actually been used, as reproduced in the August issue, such of our readers as feel so inclined should be encouraged to make a few negatives specially for this competition. The effort will be well worth the while of any worker as a serious attempt at a definite result, or rather, along a definite line. A definite result implies a definite aim; and, even with the information available as listed above, the reader must himself supply the aim through his own appreciation of the possibilities of the material available as subject matter for his pictures. Originality is important; and, to obtain it, the worker must be possessed of some degree of imagination, at least enough to prevent his dependence upon the work of others for his ideas. To look over a collection of farm publications and then select as models a few that it is believed one can approach with the material available as subject matter, might result in passable pictures, but following such a plan could hardly make for very great success. Furthermore, so doing would not give the worker that training, both of the mind and of the eye, that should result from an honest effort to comply with the requirements indicated.

A Noteworthy Exhibition

There was held, in the art gallery at Paul Elder's, this city, the first week of October, an exhibition made up of sixty-four examples of the most recent work of Doctor H. D'Arcy Power, an exhibition, the first ever made, of pictures in two and in full color, produced by a method that is as new as the results are satisfying.

These pictures, remarkable for their wonderful atmosphere and their artistic beauty resulting from a combination of the fine textural quality of the photograph with the charmingly soft color quality so characteristic of pastel work, have a charm that appeals most strongly. They demonstrate quite clearly that the camera can be made a servant instead of being allowed to master, and that its truthfulness can be combined with the beauty of color and the resultant union endowed with an individuality that gives the results strong claims to art.

Briefly, a print, most frequently an enlargement, is bleached and then, by the process described by Doctor Power in our October, 1909, issue, toned locally to blue black and to warm, almost red, brown. On this chemically prepared photographic image are applied pastel colors with such skill as the worker may possess along that line. An article describing the method is in preparation for an early issue.

An Artistic Exhibition

An exhibition of about fifty examples of the artistic photographic work of J. Dunbar Wright was held at the Schussler Galleries, this city, October first to fifteenth. Mr. Wright being both a traveler and an artist of the brush, the pictures quite naturally were interesting as to subject and highly artistic as to quality. Mr. Wright also uses his camera, in his travels, to secure lantern slides for lectures, which he devotes to charity in his home city, New York. As a printing medium, Artatone best serves this worker's purpose.

James H. Smith Visits the Coast

James H. Smith, head of the firm manufacturing the well-known Victor flash powder and flashlight specialties, was in this city several weeks recently, doing the Exposition and calling upon such of his many friends as time permitted. He reports business in his line most satisfactory, and while here, the factory wired him to arrange for the shipment from this port of an export order that promises to develop still more foreign business. Mr. Smith says that while there has been a sharp advance in the price of magnesium metal and other constituents entering into the composition of flash powder, necessitating an increased selling price, there is no fear of a shortage of supply and the increased cost per flash is so small that it has, apparently, no effect upon the demand. This last is verified by the increased sale, not only of the powder itself, but of flash cabinets for portrait work in some of the largest and busiest studios throughout the country.

More Rochester Visitors

O. D. Reed, of the Defender Company, together with his charming wife and her sister, spent a week in San Francisco enjoying the Exposition during the early part of October. From here they go to Los Angeles for a short stay, after which a visit will be paid the Grand Canyon before their return home. Both the ladies express themselves as highly pleased with this, their first trip to the Coast, and of course Mr. Reed finds each recurring visit more enjoyable.

George R. Bosworth Passes Away

It is with the deepest sorrow that we learned of the death of our esteemed friend and occasional contributor, George R. Bosworth, of Barre, Vermont, through a sudden attack of heart trouble, at his home on the evening of September seventeenth. Mr. Bosworth was a descendant of two of the oldest families in Vermont and was known and esteemed by a wide circle of friends in Barre, Berlin and the adjacent portions of the State.

Death of Morris G. Gennert

We are sorry to learn of the death on Saturday, October second, of Maurice G. Gennert, senior partner of the firm of G. Gennert, New York. Mr. Gennert has been an important figure in the photographic world for a number of years and leaves a host of friends therein.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Enlarging With Magnesium

For those who do not possess an enlarging lantern, and who do not find any of the various methods of enlarging by daylight convenient, there is no better or more efficient method of working than the use of magnesium ribbon, but lack of experience causes some to fail with this method. A correspondent recently complained that he got light corners to his prints, thus proving that he had not secured even illumination. Provided the negative is of uniform density, it is, however, perfectly easy to secure even lighting all over if we proceed methodically and in the right way.

There are two methods of employing the ribbon, both being efficient, but the one being far more economical than the other. The first and most wasteful method is to hang up a number of vertical strips of ribbon behind the negative, and light them one after the other. The more economical and convenient method is to use short strips of ribbon burnt separately and waved about behind the negative. By either method the object is to cover with light a sufficiently large area, and when too light or insufficiently exposed corners appear it simply means that the area covered is not large enough. The area covered by the light must be at least the size of a half-plate if a quarter-plate negative to be evenly illuminated, when the ribbon is burnt about an inch away, and if for any reason we want to keep the ribbon yet farther back, we must increase the area covered by the ribbon until it equals in width and height the dimensions of the negative *plus* twice the distance of the light. If we take the light back six inches from a quarter-plate negative which is backed with ground glass, then we must cover an area equal to about 16x15 inches to secure even lighting, and, naturally, this means an enormous waste of ribbon, with no counteracting advantages. It should be clearly understood that this method of working is not

comparable with one in which we use a single fixed point of powerful light. In such a case we can get even illumination by removing the light to a great distance, but in the method we are considering we are using a moving single point to create what is virtually a large diffused light-source near the negative, and even illumination with such a near large light demands the use of a large area of light. If we rely on distance to produce even illumination we are really relying on the approximate parallelism of the light reaching the negative. This demands a very powerful light, and when such is not obtainable we have to rely on perfect diffusion, which is most easily obtained with a very large area of light near the negative. The following is a practical method of working which we used for a very long time with much success. It is, of course, assumed that either a proper or a makeshift enlarging camera is available. The space between negative and lens, as well as that between lens and bromide paper, must all be covered in, and it is not difficult to arrange this, even when nothing but an ordinary single camera is available. If it is a big camera we can use it to hold the bromide paper while the negative is fixed up in a large vertical carrier of some kind. This is the most convenient method, and a focusing cloth will be sufficient to cover up space from lens to negative. A small camera can be utilized to hold negative and lens, while a vertical easel holds the bromide paper. This arrangement is not so convenient, and more care is required in covering in the space in front of the easel; still, the method is workable. Assuming these necessary conditions to be fulfilled in some way or another, all that remains to be done is to provide some kind of light, such as a paraffin or incandescent gas lamp, or electric bulb for focusing purposes, and also to arrange the negative with the necessary diffusers. The negative should be fixed in the carrier in contact with a piece

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of fine ground glass, the latter being put, of course, at the back of the negative and towards the light. With this arrangement we secure focus, and then remove the lamp and prepare for exposure. A second and much larger piece of ground glass is now required, and this must be fixed up behind the carrier and as close to it as can be arranged. It should not be more than half an inch away and a quarter of an inch is better. We can then easily burn the ribbon within one inch of the negative, and, applying the rough rule before mentioned, the light from this ribbon must cover for a quarter-plate negative an area equal to 6x5 inches at least. This area can be roughly indicated on the larger piece of ground glass with chalk or pencil, and then we have a guide as to the proper place to apply the light. This guide is necessary, the negative itself being more or less out of view. It is obvious that the 6x5 area must be central with the 4x3 negative.

We now come to the actual exposure. Estimate the amount of ribbon required, and cut it up into a number of even short lengths. It is important that the lengths should all be the same, and the actual lengths should vary with the size of the negative, somewhere about the largest dimension of the negative being a convenient length to adopt if we are prepared to work fairly quickly. About 16 inches in all should be sufficient for enlarging on a moderate scale from a quarter-plate negative of average thinness. Have a spirit lamp burning close to the negative carrier. Take up a piece of ribbon by its end in a pair of tweezers or pincers; light it, and then use it as follows:

Suppose the negative to be set vertically in the carrier, then the space we have to cover is 6 inches high and 5 inches wide. Imagine this area to be divided horizontally by lines an inch apart, then start the lighted ribbon at the top left-hand corner, move it horizontally to the top right-hand corner, then drop to the next imaginary line, and go back from right to left along it. Drop to the next line, and move left to right, dropping at the end, and coming back right to left along the next lower line. The burning ribbon must thus make seven journeys across the negative in alternate directions, and the length of ribbon and the speed of the movement must be so adjusted that the one piece will just last out for the whole journey. The

next piece of ribbon we use in the same way, but this time working vertically, six journeys alternately up and down being required. The rest of the ribbon is used up similarly, not following exactly the same lines each time, but endeavoring to cover the whole space with a uniform cross hatching of lines of light. A little practice is all that is required to get quite uniform lighting, and the method is extremely easy and serviceable.

It should be obvious that it is also quite easy to produce intentionally non-uniform illumination, if desired, and this is a very valuable feature of the method. For example, the negative may show good clouds, which require extra exposure to bring them out. If the position of the sky-line is approximately noted on the ground glass, it is quite easy to give an extra hatching of light over the sky, and by making the lines rather closer together at the margin, and separating them more widely near and over the foreground, we can graduate the illumination. We can also increase it locally by burning a short piece of ribbon just opposite the place that requires extra light. To facilitate such local treatment it is a good plan to make a rough direct print from the negative, and keep it in view while exposing the enlargement.

It has been suggested that an electric torch should form a good and very convenient substitute for the magnesium ribbon. We have not tried this, but the idea is certainly feasible now, when the introduction of small Osram lamps has rendered the electric torch a much more powerful illuminant than it used to be.

The chief defect, if it be a defect, in this method of illuminating a negative by what may be described as hatching it with lines of light is the fact that it is quite impossible to secure critical definition. Every part of the negative being illuminated from every possible direction, a very slight blur or softening is produced. There is nothing of the nature of fuzziness about the effect, only a lack of the extreme sharpness that can be produced by other methods, which loss we see no reason to regret. The most important defects of the method are its slowness, as compared with the speed at which enlargements can be made with an enlarging lantern, and the smoke produced by the mag-

nesium. The latter defect would, of course, disappear if an electric torch were used, but the time would probably become very much longer.—*British Journal of Photography*.

NOTE: The above method of using the magnesium can be both intensified and equalized by placing a sheet of white blotting paper at an angle of forty-five degrees behind the source of light and the negative.—[H. D'A. P.]

Cracked and Broken Negatives

F. C. L., writing in the *Amateur Photographer*, says: "I have a negative which is broken, but not into separate pieces. I wish to get an enlargement from it if possible." "I have had the misfortune to crack a negative which I greatly value, but the film is intact. Is there any method by which I can get a contact print without showing the effect of the crack in the glass?" Queries similar to the above occur occasionally in the columns of the photographic papers, and with a view to answering them fully the following notes have been prepared.

So far you—gentle reader—may have been lucky enough to avoid cracking the glass of your negative, but who knows what may be in store for you the next time you put a negative into a slightly warped printing frame, etc.? You then may wish you had noted the following hints as to the best methods of dealing with the trouble.

The first thing to be done with a cracked negative glass is to give it the support of a sound piece of glass of the same size, binding the cracked and sound glasses together along the edges after the manner of a lantern slide and its cover glass. But in this instance the film side of the negative is outside the two glasses. The supporting glass will, of course, be carefully cleaned before being put to this use.

For contact printing, the now supported negative is put into a printing frame in the usual way. If printing is to be done by artificial light, bromide, gas light, etc., the face of printing frame should be covered with tissue paper or finely ground glass, or the printing frame may be held in the hand and wobbled about in all directions during the whole time of printing.

For enlarging purposes one may try the effect of backing the negative-supporting glass with matt varnish, and also slightly

shifting the lens to and fro during the exposure. These dodges may serve to give a print good enough for our querists. Their fitness depends largely on how the crack or cracks are situated as to the lights and shades of the picture, density of negative, and so forth.

Failing the foregoing first aids, the only thing to be done is to strip the film right off the cracked glass, and mount it again onto a sound piece. This is a quite easy and simple process, but the beginner should certainly try his hand with one or two discarded negatives, so as to become adept in the business and have the aiding confidence of knowing exactly how and what to do.

The following have all their ardent advocates:

1. A bath of ten per cent soda carbonate, followed by a bath of five per cent hydrochloric acid.
2. Saturated solution of potassium carbonate.
3. Formalin, together with glycerine, hydrofluoric acid, etc.
4. Hydrofluoric acid freely diluted.
5. Sodium fluoride and acid.

This last named is the simplest, safest, and generally preferable, and is therefore here given in detail:

As the acid evolved by this mixture attacks glass and so loosens the adhesion between the film and glass plate, it follows that we should not use a glass or earthenware glazed dish. We may use one of sheet lead, celluloid, papier-mache, or wood. Or "at a pinch" we can makeshift with the cardboard lid of a plate box by saturating and waterproofing it with paraffin. Melt up a few paraffin candle ends in a teacup in the oven, warm the cardboard lid, pour the melted wax into the card, and quickly tilt it about in all directions to give it an all-over inside coating; the outside does not matter.

With a sharply pointed knife and metal straight-edge cut right through the film down to the glass all the way round the negative at a distance of one-eighth to one-fourth inch from the glass edges. These cuts appear like the finest scratches or lines—barely visible.

Make a three to five grain per ounce solution of sodium fluoride in water. Allow at the rate of two ounces of solution for quarter-plate size, and so on. Just before this solution is required, add three to five drops

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of sulphuric acid, or ten grains of citric acid, or ten grains of tartaric acid per ounce, the last two solids previously powdered and dissolved in a minimum of water.

The negative to be stripped is immersed in this mixture, and the dish rocked. In a few minutes the film will show signs of frilling. We may now use the marginal one-eighth inch wide strips as guides to gauge how the loosening effect of the bath is proceeding. No force must be used in trying to get the film free of the glass beyond what one may apply with a short moderately stiff feather or quite soft brush. As soon as the film is free from the broken glass the pieces must be carefully removed, and the stripping solution poured nearly all away, the dish filled up with water, and thus the film washed. A new, i. e., sound piece of glass is put into the dish, and the free film floated onto it, and then the two together are very slowly raised out of the water. The plate is drained in the hand for a moment, then set on edge on a strip of blotting paper. Sometimes there is scarcely any expansion of the film in this process, but at other times the film expands appreciably. Therefore it is advisable to work on a dish a size larger than the original negative, and also to be provided with a piece of glass a size larger than the original negative, e. g., a 4x5 glass for a quarter-plate original.

In these abnormal times, when a difficulty is experienced sometimes in procuring somewhat out of the way things like sodium fluoride, it may be just as well to give some alternative stripping-bath formulæ.

A: Hydrofluoric acid one part, water thirty to fifty parts.

B: If expansion of the film is not desired, this may be secured by using equal parts of water and methylated spirit in place of the plain water in this formula. Some advocate the addition also of about five drops of glycerine per ounce of bath mixture. But its use is of very doubtful advisability.

C: If a negative is soaked for ten minutes in a cold saturated solution of potassium carbonate, practically a fifty per cent solution, surface wiped dry, and then dried, the film may be stripped dry. But this is a bit risky in the case of a cracked glass.

D: Another method is to bathe the plate in ten per cent soda carbonate solution for ten to fifteen minutes, and then transfer it

straight, without washing, to a five per cent solution of hydrochloric acid. Carbonic acid gas is now evolved, which lifts the film off the support.

E: Bathe the plate for ten minutes in water, three ounces, formalin one ounce, glycerine ten drops. Wipe the surface dry, and then let the plate dry. Then coat the film with celluloid cuttings dissolved in amyl acetate or acetone to give a thick syrup. When this is quite dry the film can be stripped off the glass.

F: Another type of formalin formula is water two ounces, methylated spirit one ounce, formalin two drachms. Bathe for ten minutes, then gently squeegee down onto the film a sheet of waxed or oiled paper. When this is gently peeled off, commencing at one corner, the film comes off adhering to the paper, whence it may be transferred to another glass.

In place of the celluloid varnish above named, we may use a thirty grain per ounce solution of gelatine as supporting film. In all cases the film should be cut with a knife all round the edges before bathing.

NOTE: I have used most of the above formulæ and the only one I would risk for transferring (not cleaning off) a film is the sodium fluoride or hydrofluoric acid mixture.—[H. D'A. P.]

Depth of Focus

How much "depth of focus" so-called, but better termed depth of focal field, we have under any given conditions of lens, stop, etc., is one of the most important points for the hand-camera worker. To take an imaginary yet quite likely case: At twenty feet distance is a rustic figure, and beyond this, ten feet further away, i.e., thirty feet from the lens, is a cottage. The light is not very strong. We want to use the largest stop possible. Where on the focusing scale should we set the pointer? The beginner promptly replies, "Half-way between the nearest and most distant object required in focus." In the above case this would be twenty-five feet. This, however, is not quite right, but with these particular distances the error would be small, and the above answer "near enough." Let us, however, take another instance, viz., the near object, ten feet and more distant one thirty feet, halfway between them being twenty feet.

A PHOTOGRAPHIC DIGEST

To find the correct focus point we multiply the two distances, 10 and 30, i.e. 300; double this, 600; and then divide it by 10 plus 30, i.e. 40. Now 40 in 600 goes 15 times, i.e. the point to focus on sharply is fifteen feet away, so that with whatever stop we use, the ten feet and thirty feet objects would be equally sharp or unsharp, as one may please to term it. There is, in this case, an appreciable difference between the focus point—fifteen—and the half-way point twenty feet. If the reader will calculate the "focus point" for ten and one hundred feet for example, he will find it is eighteen feet and a negligible fraction. Also for ten and one thousand feet, it is only about a foot further away. Now here is a hint of considerable practical purpose, viz., that the focus point is always closer to the nearer than the more distant object, and as the more distant point moves away, it also moves away, but very little in comparison, and it does not reach double the distance of the near point until the far point is at infinity.

One very practical lesson is to be drawn from this, viz., that it is far more important to be accurate in estimating the distance of the near point than the far point. For example:

For 10 and 20 feet it is $13\frac{1}{3}$ feet

For 10 and 30 feet it is 15 feet

For 10 and 50 feet it is $16\frac{2}{3}$ feet

For 10 and 100 feet it is $18\frac{2}{11}$ feet

For 10 and 1,000 feet it is $19\frac{1}{6}$ feet

For 10 and infinity it is 20 feet

Suppose we have estimated the near object pretty correctly as ten feet, and we are in doubt about the further point being thirty, forty, or fifty feet; the difference this makes on the position of the focus point is only about one foot, and this, on the focusing scale, say with a six-inch focus lens, would be a trifle less than one-two hundredth inches—a quantity we need not consider at all.

But it all brings home to one the importance of care in eye estimation of the nearest object or plane required in reasonably sharp focus, and also the importance of the focusing scale of the camera being accurately placed on the camera.

Below is a table which probably has not been previously published. This shows at a glance the focus point, or point to focus on sharply—or to set the pointer on the scale if we can judge the distance of the near point and the far point in terms of the near point. An example or two will illustrate

its use. Suppose the nearest object is fifteen feet, and the far point double this distance. Then the focus point is one and one-third times the distance of the near point, i. e., one and one-third times fifteen feet, or twenty feet. Or suppose the near point is twelve feet and the far point three times this distance, then the focus point is one and one-half times the distance of the near point, or one and one-half times twelve, i. e., eighteen feet.

Relation of Near to Far Point	Focus Point in Terms of Near Point
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1 to 2	1 $\frac{1}{2}$
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1 to 3	1 $\frac{1}{2}$
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1 to 4	1 $\frac{1}{2}$
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1 to 5	1 $\frac{2}{5}$
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1 to 6	1 $\frac{3}{5}$
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Hand-camera workers are often so situated that an exposure as long as one deems desirable is not possible. The light may be feeble in strength or of a somewhat non-actinic color, e. g., towards sunset, or in hazy, yellow, foggy weather; the object may be in rapid motion. One cannot do what one would desire. So the next thing is to do the best possible under the conditions. The first step in the right direction is to employ the largest stop possible, which will give us the desired depth of subject in as sharp focus as circumstances permit; and along with this goes the setting of the focusing scale pointer to the true "focus point," so that the nearest and farthest points may be equally defined. This obviously means using the stop—whatever it may be—to the best advantage. But the pressing question at the moment is, What is the largest stop which—with a lens of, say, five inches focal length, by way of example—will give us a practically sharp negative of an object at six feet and another at ten feet distance? A method has been worked out of calculating this matter which is really quite simple, though, perhaps, a little tedious. All that is needed is simple multiplying and dividing and a little patience. It is, of course, quite out of the question to go through this when the camera is being used. What the reader is advised to do is to devote a spare hour in working out a table which applies to his own lens and its stops.

It will simplify matters if we call the distance of the nearest object A, and the farthest object B; these are to be expressed in feet. The focal length of the lens we call

F, and express it in inches. Thus, in the above example, $A=6$, $B=10$, $F=5$.

We can now give the general rule in three steps: (1) Subtract A from B, and divide this by A multiplied by B. (2) Multiply F by itself and then by the result of 1. (3) Multiply the result of 2 by $\frac{25}{6}$, or $4\frac{1}{6}$.

Thus in the above case by step 1 we get 10 minus 6, i. e. 4, divided by 60, or $\frac{4}{60} = \frac{1}{15}$. By 2 we have 5 times 5, or 25. This multiplied by $\frac{1}{15}$ is $\frac{25}{15} = \frac{5}{3}$. By 3 we multiply $\frac{5}{3}$ by $\frac{25}{6}$, i. e., $\frac{125}{18}$, which gives us 7 very nearly.

But we are not very likely to find this among our stop numbers, so, to be on the safe side, we should use the next smaller aperture, i. e. the next larger number, i. e. f-8. It may be convenient for the worker to have the general expression before him. It is

$$\frac{25 \times F^2 \times (B - A)}{6 \times B \times A}.$$

Thus for the numerator we multiply the difference between A and B by the square of F, and then by 25. For the denominator we multiply A by B, and this by 6. This is really the simpler way of doing the arithmetic, for often we can cancel out and save multiplying.

Non-mathematical photographers at times are somewhat troubled by the word infinity, and also by its symbol. Mathematicians have adopted the symbol ∞ to signify that one quantity "varies" or depends on another, e. g. the circumference of a circle "varies" with its radius or diameter. Also they have adopted a very similar symbol, which looks very much like the figure 8 turned onto its side, thus ∞ , as the infinity sign. This is, perhaps, a little unfortunate, as now and then one finds it has led to confusion and mistakes. Those scale engravers who mark infinity with the abbreviation "inf." are to be congratulated and thanked for anticipating and preventing mistakes in this direction.

Mathematicians—or, so far as photographers are concerned, we may say opticians—largely use the term infinity in a relative rather than an absolute or metaphysical sense. When one quantity, say the focal length of a hand-camera lens, is small compared with the distance of an object photographed, the latter may conveniently be termed "at infinity." For instance, the

focal length of the camera lens may be six inches (half a foot), while the object dealt with is distant perhaps a thousand times this quantity, i. e., five hundred feet precisely. Now we know from practical experience that if the object were shifted one lens-focal-length nearer or further away, we should not be able to take account of this on our focusing scale—a difference of one one-thousandth of six inches, or, say, one one hundred and sixty-sixth inch. Even if this readjustment could be made, the normal, unaided eye would not be able to see any difference in the picture. Now although five hundred feet is relatively small compared with the most distant part of many an open landscape or panorama picture of the photographer, yet it is large compared with such a length as six inches. Hence, in practice, infinity is a very variable quantity, depending on various factors; e. g., the focal length of the lens, the size of stop, degree of unsharpness permissible, and so on.—*Amateur Photographer*.

Illinois College of Photography

L. B. Tyler, who graduated in May, has a fine position in Winona, Minnesota. He will soon be among the shining lights in photography, as he is an exceptionally fine workman.

After spending several months at the Panama-Pacific Exposition, K. W. Johnson, of Westfield, New York, has returned to the College. He expects in a short time to begin work in some engraving plant.

At the two-day meet of the Effingham Automobile Club, Professor Killen, of the engraving department, won first honors in the economy fuel test, averaging over thirty miles to a gallon of gasoline.

William H. Littleton, of Muncie, Indiana, won two of the seven trophy cups offered at the last Indiana State Photographers' Convention. Mr. Littleton was a student of 1903, and is one of the many successful graduates.

At the last National Convention of the P. A. of A., held at Indianapolis, there was a large representation of the students and former students of the College, seven having pictures accepted; while Edward Weston, student of 1908, was successful in having one of his prints chosen for the Salon, as he was also a year ago.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Planning Ahead

There is an amateur that I know who believes in laying out his work in advance. His plan came to my attention through his asking a mutual friend for the loan of the latter's youngest son and his dog the following Saturday afternoon. Going into the matter, I found that my friend the amateur, while living in a city flat, had an extensive series of natural backgrounds at his disposal through arrangements with several friends living in less crowded portions of the suburbs, friends having more or less extensive grounds around their homes. He had not only explored these several localities pretty thoroughly by walking about them with only a finder with which to pick out possible backgrounds, but in many cases he had gone back the second time and, with a friend to act as a sort of lay figure, had made numerous exposures with a small pocket camera in order to assure himself that the selected bits adjudged suitable as setting for picture, photographed to his satisfaction. The lay figure gave him not only the size any other figure would come, but the results indicated quite clearly the suitability of the lighting for figures at each particular place. Then an inspection and study of the small prints followed. He decided that a gentleman instructing a gardener as to the latter's work would make a picture at a certain point, that a girl seated and reading a book would best fit another, that a child playing with a dog would suit a third, and so on through the list. In fact, this worker is coming very close to following out the methods of the moving picture people except that he finds the setting and then looks about for the figures, while the latter have the figures and the story to be told and then look about for the proper setting or locality. His plan also reminds me of a somewhat similar method that another friend followed some years ago. This worker, as he ran across a picture in a magazine, a book, or wherever it happened to be, that seemed to have a

good story-telling interest, drew a rough sketch of it in a memorandum book that he carried. Later, using known situations or locating new ones, he secured suitable models and obtained pictures having much of the merit of the spontaneous work of the artist. His note book always reminded him that he must be on the lookout for certain settings for certain pictures and every available acquaintance became a possible model for one of his efforts.

Quick Drying of Prints

A correspondent who is doing quick finishing complains that the production of the prints takes longer than he feels it should. Perhaps following the plan given us by a local worker will cut down this time. With the print developed, the next thing is the fixing, and, if the print be the only one in a tray containing a fresh but not too cold fixing bath of a strength of one to four, two minutes should suffice. This can be proven by immersing a bit of undeveloped plate in the same bath for the same time, remembering that in the case of this latter the emulsion is not only somewhat thicker, but the fixing bath can only reach it from the front, while in the case of the paper the fixer can act through from the back as well. The washing of the print should not require more than another two minutes if there is a circulation of water and the print is suspended so that the heavier hypo solution can fall from the emulsion rather than through into the fiber of the paper. Quick drying is merely a matter of removing as much water as possible before the process of evaporation is called into use. Pressure between blotters is the accepted means of removing surplus water, but some papers seem inclined to stick or else gather some lint from the surface of even the "lintless" blotters sold for the purpose. The best plan is to interpose a sheet of thin butter muslin between the face of the print and the first blotter on that side and then run through an ordinary wash

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wringer with the rolls set very tight or enough blotters used above and below the print to secure good pressure. A change of blotters and a second run between the rolls will help. This done and care taken to dry the prints in a current of air that is itself not damp, and the drying will be completed in a surprisingly short time.

Granularity In Enlarging

A correspondent back East writes to ask if the excessive amount of granularity that some of his small negatives show is not due to the fact that the negatives were somewhat under-exposed, and he also wishes to know what method of working is the most likely to give the finest grain in the resultant negatives, enlargements being the form of prints wanted. Taking the last query first, I believe we may safely assume that the fast plates of the present are no more inclined to granularity than the slow ones, although there was a time when such was not the case. Intensification produces granularity, and, of course, that should be avoided. A developer like amidol that requires no alkali, is, we believe, less likely to give granularity than one that requires the swelling and opening of the emulsion with a strong alkali. Lastly, too rapid drying of the negative is inclined to produce a little more grain than would otherwise appear. Coming to the first question, our belief is that a fully timed negative really has a finer grain than one that has been denied the proper length of exposure. It would really be an interesting experiment for someone to try making an under and a full timed exposure on the same subject, develop both in the same solution, the former for a longer period of course, and then make enlargements from both without changing the position of negative carrier or easel in order to assure the same degree of sharp focusing. The resultant prints should show if there was any difference in the granularity of the negative due to length of exposure in the camera.

Those Yellow-Colored Negatives

Every once in a while the amateur runs across some old timer to whom he naturally looks for information, and that individual is prone to extol the merits of a slight yellow stain such as pyro so easily gives the negative, particularly when the sulphite is somewhat reduced. In the earlier days of

the dry plate, the securing of sufficient density was not nearly so easy as it is today, while the printing processes of that time require much stronger negatives as any user of albumen, or even of the later chloride papers, can testify. In those days pyro was the ideal developer for the simple reason that, in addition to a uniform slight yellow or amber stain throughout the film, it also produced an increased contrast by staining the image itself to a still greater extent. This last peculiar action of pyro can be demonstrated by the simple expedient of bleaching out the silver image of a pyro-developed negative. Doing this will leave a more or less plainly defined duplicate of the silver image, an image made up of a darker stain than that throughout the other portions of the negative. But today our dry plates give all and more than can possibly be required in the way of density and contrast, and further, our present-day most popular printing process, developing paper, gives bright prints from negatives that would be worthless for use with the albumen paper of the old timer's period.

A Supplementary Sink Front

In another dark-room we visited recently we saw a device that seems worth calling to the attention of our readers. It consisted of a board about six inches wide and cut of such a length that it would set down about two inches inside the front edge of the sink, the remaining four inches extending above and forming an upward continuation of the front edge thereof. Wooden cleats screwed to the back of this board engaged the edge of the sink and held it in place. When about to wash a batch of prints or perform some other more or less sloppy photographic manipulation, this extension of the front edge of the sink is placed in position and the clothing and patience of the worker benefit thereby.

Testing Water For Lime

Fill a graduate with the water to be tested and then add thereto a little ammonium or potassium oxalate solution. This last can be of almost any strength and the amount added does not particularly matter. If its addition causes a milkiness of the water or if a precipitation is formed, the presence of lime is indicated.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Officers of the I. P. A.

F. B. Hinman, President, Room 237, Union Depot, Denver, Colo.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality, a letter "X" will be placed after the member's number, indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

George E. Moulthroppe, Director Lantern Slide Division, Bristol, Conn.

Edward B. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—A. E. Davies, 2954 Linden Ave., Berkeley.

Idaho—Eugene Clifford, Weippe.

Iowa—Harry B. Nolte, Algona.

Kansas—H. H. Gill, Hays City.

Missouri—J. F. Peters, Room 210, Union Station, St. Louis.

New York—Louis R. Murray, 21 Clark St., Ogdensburg.

Oregon—F. L. Derby, La Fayette.

Texas—Emmett L. Lovett, Roby.

Wisconsin—F. W. Freitag, 500 Monument Square, Racine.

Mississippi—George W. Askew, Jr., 211 34th Ave., Meridian.

NEW MEMBERS.

4129—Lewis Clinton Day, P. O. Box 500, Elmira, N. Y.

3½x4¼, developing papers, of Indian views from six years' residence in New Mexico; for Indian pictures. Class 1.

4130—E. O. Bethke, Box 27, New Franklin, Mo.

3½x4¼, developing papers, of views and scenery; for views or anything of interest. Class 1.

4131—Cyril Gibbon, care Collett & Son, Dannevirke, Hawkes Bay, New Zealand. Class 2.

4132—C. S. Carlsmith, Hilo, Hawaii, T. H.

3¼x5½, developing paper, of tropical scenes of forest and seashore, and volcano of Killneea; for forest, river, lake and roadside. Class 1.

4133—J. W. George Winkler, Box 16, George, Iowa.

Cabinet and 5x7, developing papers, of home portraits, groups, etc., and commercial; for the same. Class 1.

RENEWALS.

3295—James B. Herrick, Jr., P. O. Box 1105, San Diego, Cal.

1½x2½ to 8x10, developing papers, of general Southern California scenes. Panama-California Exposition, missions, ocean and bay views; for nude or draped studies. Class 1.

3467—Rev. Paulus W. Weber, Box 87, Crivitz, Wis.

All sizes up to 8x10, various papers, of landscapes, river scenes, waterfalls and rapids, also child studies; prefer waterfalls, marines, figure studies and some good pictures of the Expositions. I will also accept other subjects if they are of interest. For good, clean work, I am always in Class 1.

3969—J. B. Pinder, Box 138, Springside, Sask., Canada.

Could not answer exchanges on account of being away, but can now take up as before. 3¼x5½, also 5x7, developing papers, of views of general interest; for the same. Post cards and prints. Class 1.

3996—Paul M. Elder, Box 362, Coeur d'Alene, Idaho.

2¼x4½, 3¼x4¼, 4x5 and 5x7, developing papers, of mountains, lake scenes and flowers; for foreign, old landmarks and ruins, public buildings and parks, as well as of the U. S. Lantern slides only. Class 1.

CHANGES OF ADDRESS.

188X—Edward Truman, Burton, Ohio. (Was Genoa, Neb.)

2596—Maurice Windus, Box 266, College Station, Pullman, Wash.

(Was Box 194, Pullman, Wash.)

3085—Thos. Bradt, 502 High Ave., S. W., Canton, Ohio.

(Was Aylmer West, Ont., Canada.)

3212—G. L. Massey, 3017 Davenport St., Omaha, Neb.

(Was Big Eddy, Ore.)

3676—C. R. Lowe, Dakota, Neb.

(Was Benedict, Neb.)

3807—Jessie T. Morris, 550 Riverside Drive, Apartment 57, New York City.

(Was 201 West 122d St.)

3860—E. A. Kline, 109 Park Ave., Council Bluffs, Iowa.

(Was 318 Elder St.)

4079—J. W. Thornton, 541 East Second St., Newport, Ky.

(Was Bellevue, Ky.)

4106—Rev. S. A. Chapman, 737 N. Broad St., Galesburg, Ill.

(Was Davenport, Iowa.)

4109—Leslie Welch, 664 Kerby St., Portland, Ore.

(Was 555 South 5th St.)

WITHDRAWAL.

3742—S. H. Nichols, 616 Front St., Hayward, Cal.

On account of lack of time.

CLUB NEWS AND NOTES

Club Secretaries and others will oblige by
sending us reports for this Department

Reducer For Toned Enlargements

On the evening of September thirtieth, the Los Angeles Photographic Club held its last meeting in the Public Library Building previous to moving into its newly acquired quarters, occupying the entire top floor of the Lyceum Building. Owing to the efforts of Keith Koonz, the club was enabled to occupy this building at once; the club expressed appreciation of his efforts. A committee was appointed to act with President Adlard and Secretary Hall to obtain furniture for the new quarters. The secretary was instructed to prepare a booklet, suitable for distribution through photographic dealers of Los Angeles and to send votes of thanks to Wm. J. Grow for his offer of use of dark-room and to Mr. Perry, Los Angeles Librarian, for past use of meeting place in Library Building. President Adlard told of a method by which the ordinary permanganate Autochrome reducer can be used to reduce enlargements uniformly or locally, even after sulphide toning. He recommended a plain hypo solution to stop action of permanganate at desired point.

Static Eliminated By Simple Method

The Los Angeles Photographic Club held its first meeting in its commodious new quarters on the evening of October seventh. It was unanimously voted to change the name of the club to "Southern California Camera Club." The names of W. A. Hudson and F. H. Taber were proposed for membership in the club. A letter was read suggesting an exchange of pictorial work with the Nederlandsche Club Voor Foto-Kunst, which is making an especial effort to co-operate with clubs in neutral countries. A committee was appointed to prepare a program for a Hallowe'en party to be held in the quarters of the club. The secretary was instructed to get in touch with the other photographic organizations that might be interested in exchange of work. An informal slide exhibi-

tion was announced for the meeting of October fourteenth. Fred Archer, a camera repair expert, told of making a simple device to eliminate static, the bugbear of movie photographers. This simply consists of a metal crank-handle that conducts the static electricity from the camera to the body of the camera man.

Brooklyn Institute Course

For the past four years the Department of Photography of the Brooklyn Institute of Arts and Sciences has been conducting courses in photography for the benefit of amateur photographers who feel that they can improve their work by taking a course where personal instruction and demonstrations are given. There are two courses, one for the novice, beginning October 5th, and another for advanced workers, starting two days later. The tuition fee in both cases is very nominal.

These courses will be again in charge of William H. Zerbe, who has in the past so successfully conducted them. Any of our readers interested in photographic instruction of a high order should write to the Brooklyn Institute of Arts and Sciences, Academy of Music Building, Brooklyn, New York, or to William H. Zerbe, 345 Spruce Street, Richmond Hill, New York, for a prospectus.

Federal Photographers Elect

Dr. Thomas W. Smillie, of the Smithsonian Institution, has been elected honorary president of the Society of Federal Photographers, which was organized recently for the advancement of scientific photography as applied to governmental work.

L. W. Beeson, of the Department of Agriculture, was chosen president. Other officers are: H. T. Cowling, Interior Department, first vice-president; A. H. Linsenmeyer, Interior Department, second vice-president; F. B. Kaye, Navy Department, secretary; E. L. Crandall, Department of Agriculture, corresponding secretary; A. A. Ruark, De-

OUR BOOK SHELVES

partment of Agriculture, treasurer, and Joseph E. Bishop, War Department; L. G. Rose, Navy Department, and E. S. Shipp, Department of Agriculture, members of the executive board.

This society was organized a short time ago for the purpose of bringing together all of the photographers employed by the Government, and also all others interested in applied scientific photography. Meetings are held monthly in the Smithsonian Hall, at which times some of the leading men interested in scientific photography are to give illustrated talks.

Of Interest To Pictorialists

There will be an exhibition of Pictorial Photography at the Print Gallery, 707 Fifth Avenue, New York, during the month of December. Any pictorial photographer may submit three prints before November fifteenth and they will be passed on by a jury of three prominent men in the art world. Henry W. Kent, Secretary of the Metropolitan Museum of Art, Albert Sterner, and another

well-known artist whose name will be announced later. Further particulars may be secured from the Print Gallery, as above.

J. K. Rose In San Francisco

J. K. Rose, the "Dean of the Demonstrators" they call him over Salt Lake way, reached San Francisco the middle of October; and, as usual, found a hearty welcome awaiting him at the hands of the photographers and the dealers here. Users of Hammer plates must find little if any reason for complaint if one may judge from the habitual unruffled geniality displayed by this advocate of theirs. While of course every user is numbered as a friend, those who have not yet been won over to Hammer plates are also listed as such, they being the ones who make his job a steady one. If everybody used Hammer plates and none had any trouble therewith, Mr. Rose might have to turn his talents in some less well-suited direction and the photographers in his territory would lose thereby.



OUR BOOK SHELVES

"Aunt Phœbe, Uncle Tom and Others"

Under the above title, Essie Collins Matthews, a former medal-winning amateur at salons in this country and abroad, has given us a combination of intimate character studies and interesting facts that reflects most clearly the spirit of both the old and the new South. The work should most particularly interest our readers because of the fifty or more pages of pictures, reproductions of artistic photographic studies showing Aunt Phœbe, Black Mammy, Uncle Tom, and other old slave characters, as well as their cabin homes, plantation houses, chapels and other features. Brief biographical sketches and recollections of the old slaves have been included, the whole having that particular charm that could only be given such a book by one having the advantage of a number of years' residence in the South as has Mrs. Matthews since her marriage to the rector of St. Paul's Parish, Greenville, North Carolina. The book is handsomely printed, cloth bound, with title in gold. It is sent postpaid upon receipt of the price, one dollar and fifty cents.

In ordering, address Essie Collins Matthews, 212 Jefferson Avenue, Columbus, Ohio, or St. Paul's Rectory, Greenville, North Carolina.

Elementary Photo-Micrography

The new or third edition of this well-known work by Walter Bagshaw deals most clearly and fully with its interesting subject, the taking of photographs through a microscope. Telling, as it does, how satisfactory results may be secured with very simple apparatus and telling this in a lucid, concise and accurate manner, it is essentially a book for the beginner. The text of this new edition has been thoroughly revised and forty pages of additional matter pertaining to color photography and other subjects added. The work now contains fifty-seven illustrations by the author, including fifteen full-page art plates. The book can be obtained through all book sellers, or direct from the publishers, Iliffe & Sons, Limited, 20 Tudor Street, London, E. C., England, the latter sending copies postpaid upon receipt of seventy cents.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

Portland was well supplied with photo salesmen during October. Among those present: O'Neil, Eastman Kodak Company; Lovick, Nepera Paper Division; Smith, Seed Dry Plate Division; Richardson, Rochester Optical Division; Messrs. Drossel and Miley, California Card Company; and yours truly, Hirsch & Kaiser.

The Portland Photo Supply Company, burned out recently, have secured a new location in the Northwestern Bank Building on Morrison, near Broadway. They expect to open about November first with a fresh stock of everything in the photographic line.

Maud B. Cox, formerly of Klamath, Oregon, has succeeded Mr. Carter in Salem. She reports business very good.

Mr. Smith, of The Shaw Supply Company, Tacoma, returned from the East, where he and Mrs. Smith have been spending their vacation, October eighth.

Bert Gatlif, of Eureka, has just returned from a hunting trip. He bagged two bears, one deer and some ducks—we are told.

The McLellans in Sacramento

Mr. and Mrs. W. D. McLellan, known throughout the West as The McLellans, having recently sold their studio in Fresno, motored to Portland, Oregon, where they enjoyed a two months' visit with relatives and friends. The first week in October they motored back to Sunny California and have opened up a studio at 603 J Street, Sacramento, where they will be glad to renew old acquaintances; and, with their genial personality, no doubt make a host of new friends.

High Honors

The record made by the Bausch & Lomb Optical Company at the Panama-Pacific Exposition, is one that is probably unequalled by any other exhibitor at San Francisco. The awards granted aggregate four Grand Prix, or highest possible awards, one Medal

of Honor and one Gold Medal. The award in each case was the highest prize granted. There is good reason to believe that no one company in any other department of the great Exposition received such high honors as did Bausch & Lomb. In fact, the company's representative at the Fair writes that the other exhibitors, regardless of their product or how they were grouped, only received one Grand Prix, and in most cases only a Gold Medal. The four classes in which Bausch & Lomb Optical Company received the Grand Prix are Optical Instruments, Balopticons, Engineering Instruments and Range Finders. The first division called Optical Instruments, is comprised of seven classes, and covers the company's Ophthalmic lenses, microscopes, parabolic and Mangin mirrors, field glasses, microtomes and magnifiers. Bausch & Lomb-Zeiss photographic lenses were awarded the Gold Medal, which was the highest award given.

The following are the most striking points covered in the Questionnaire upon which the Gold Medal was granted: "The Ic Tessar f-4.5, has a greater covering power in proportion to its focal length than any other f-4.5 speed anastigmat which is offered in any market. The VIIa Protar, is composed of two single lenses, each corrected to the highest degree. When used alone the Series VII lenses are so remarkably corrected that they do not have to be stopped down to very small stops in order to obtain covering power. Hence, it is possible to make up sets of Protar lenses of the highest excellence, all fitting the same barrel or shutter, and giving a variety of focal lengths."

The superior quality of all Bausch & Lomb optical instruments is generally recognized. Their microscopes are found in the laboratories, schools and colleges throughout the country. Magnifiers of this make have been in use for sixty years, while it was this company who introduced in this country the

NOTES AND COMMENT

stereoscopic prism field glass, a type that is now universally adopted for the better quality glasses.

Another Grand Prize was awarded the Balopticon, as the projection apparatus of Bausch & Lomb manufacture is called. Besides simple stereopticons for lantern slide projection, the Balopticons include instruments which project opaque objects direct; that is, solid objects or actual photographs, pictures, etc., without the necessity of making lantern slides. These instruments also project on the screen objects as seen through the microscope, and include every other device known in optical projection.

The Photomicrographic Apparatus of Bausch & Lomb make has been granted the Medal of Honor. This apparatus consists of a special camera with appliances for using it in connection with a microscope to make photographs of specimens as seen in the microscope. Considerable accuracy and rigidity are required in the mechanical parts and high quality in the optics—for the image as received on the photographic plate is magnified a thousand or more times, and the slightest tremor of the apparatus or other defect would result in a failure.

Some Fine Post Cards

We are the recipients of some very nice specimens of local view post cards in plain tints and color work, also post cards used for advertising purposes, made by the six-color lithographic process, manufactured by Curt Teich & Company, Chicago. This firm has the enviable reputation of making the best in its line, and the distinction of being the largest exclusive post card manufacturer in the United States. After seeing this line, one logically concludes that no small part of the steady demand that still prevails in the local view post card field is due to Mr. Teich's hobby of producing "something a little better" and at practically the same price demanded for inferior quality cards.

Much of the popularity of the colored advertising post card as an effective advertising medium can be credited to the Teich idea of quality, a feature which has caused the post card to come into its own as an advertising medium having high value as a selling agent. There is indeed a large field opened here for the photographer, inasmuch as he has the facilities for taking the original photographic views. Manufacturers and merchants of all

descriptions, banks and hotels are large users of advertising post cards, while local view post cards can be handled very profitably by the photographer having them made from his photographs and selling to the smaller dealers.

Wright's New Shop

Racine will soon have the most completely equipped photo supply house in the State, not barring Milwaukee. Fred L. Wright, a pioneer in the business, will be at the head of the concern, having decided to move his present business from 819 Park Avenue to 211 Sixth Street, where he will be in closer touch with the main business arteries of the city. Right service, which means promptness, accuracy, excellency in the product turned out, and courtesy, are responsible for his rise in the business world. It has given him the distinction of being at the head of his line, passing supply and photographic houses of Milwaukee as well as the lesser cities of the State.

One of the most interesting and important parts of Mr. Wright's business is the mail order section. He has for several years enjoyed a large foreign trade, pictures being sent as far as China, Japan and the Philippine Islands. This portion of the business will be maintained on its present high basis in his new establishment.—*Racine Call*.

New Ipsco Reflex Catalogue

Too late for our October number, we received a copy of the handsome new catalogue of the Ipsco Reflex Cameras, and we would advise all of our readers to send for a copy thereof. As a catalogue of a most excellent camera, this has much to commend it, for the reason that it is one that really describes, and one that describes in a manner that is full and understandable in every particular. Not only is the camera analyzed in detail as to its construction and workmanship, but full instruction is given as to the methods of operating it. This fine line of cameras has much to recommend it, and one has but to compare the specifications and capabilities set forth in the catalogue with those of other cameras of the reflecting type in order to realize that the Ipsco Cameras are entitled to the most serious consideration from those who may contemplate purchasing an instrument of this kind. This catalogue can be obtained free upon re-

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quest from the International Photo Sales Corporation, 11 East Fortieth Street, New York City.

Flashlight Season Here

Flashlight work really has no season for the simple reason that it adds to the capabilities of the photographer throughout the entire year. Two of our Pacific Coast photographers operating a chain of studios have ordered Victor Studio Flash Cabinets in the past and both have reordered since, in so doing expressing their good opinion of their value. These cabinets are manufactured by the same firm that makes the well-known Victor flash powder, they also making an excellent flash bag used mainly for banquet and group work outside of the studio. Several styles of simple flash lamps and the merits of the Victor flash cartridges are so well known by our amateur readers that they need hardly be mentioned. These goods are for sale in practically every photographic store in the country and full particulars can be obtained by addressing James H. Smith & Sons Company, 3541 Cottage Avenue, Chicago, Illinois. Several of the firm's specialties are advertised in this issue and the reader will do well to look up these announcements.

The Trilux Meter

This is a new exposure meter that promises well, and if one may judge by the high praise accorded it by those who have given it a trial, it overcomes many of the difficulties attending the use of a number of the devices intended for the same purpose. It is simple and exact, requires no sensitive paper, and does away with any counting or timing device. A most instructive and interesting little booklet covering its advantages and telling how it is used, can be obtained from the Trilux Photo Company, 1401Z Marquette Building, Chicago, Illinois. Hirsch & Kaiser, 218 Post Street, this city, carry them in stock. See their advertisement in this issue.

What Does It Mean?

Kodak Artistre. What does it mean? Just a moment and we will tell you. It is something you have been looking for and could never find. A photographic laboratory that can really give the same careful and exact attention to your carefully taken views, some

not replaceable, as you would yourself. It is the combined knowledge of selected factory experts, concentrated to produce the very finest photographic work producible and distinguished by its superior appearance and guaranteed by the Artistre Seal. Our prices may be a few cents higher than others, but the proof is in the pudding. Look for the Artistre sign, take your developing and printing to the dealer that displays the seal, and you'll not be sorry you did.

Value of The Cyko Trademark

Through the photographic journals and their own publications, *Portrait* and *The Ansco Dealer*, Ansco Company recently offered a reward of one hundred dollars for the best answer submitted to the question, "What is the value of the Cyko trademark to the manufacturer?" The contest will close December thirty-first, 1915, and all answers received up to and including that date will be considered in the competition. There are no other rules in the contest. All answers submitted, of whatever length, style or form, will receive equal consideration by the judges.

Statement of the ownership, management, circulation, etc., of CAMERA CRAFT, published monthly at San Francisco, California, required by the Act of August twenty-fourth, 1912.

Editor, Fayette J. Clute, San Francisco, California. Managing Editor, Fayette J. Clute, San Francisco, California. Business Manager, Fayette J. Clute, San Francisco, California. Publisher, Camera Craft Publishing Company, San Francisco, California. Owners, Camera Craft Publishing Company, San Francisco, California. Stockholders, holding one per cent or more of total amount of stock, Harriette E. Clute, Trustee, Hanford, California. Romaine F. Clute and Clifford H. Clute, Beneficiaries, Mountain View, California. Known bondholders, mortgagees and other security holders, holding one per cent or more of total amount of bonds, mortgages, or other securities, none.

(Signed) FAYETTE J. CLUTE, President.

Sworn to and subscribed before me this twenty-second day of September, 1915.

Sid J. Palmer, Notary Public, in and for the City and County of San Francisco, State of California. My commission expires December thirty-first, 1918.

CAMERA CRAFT



SAN FRANCISCO
CALIFORNIA

Going Up!

Cost of raw materials for making a high-grade, uniform photographic paper is going up by leaps and bounds owing to the war.

Cyko Paper

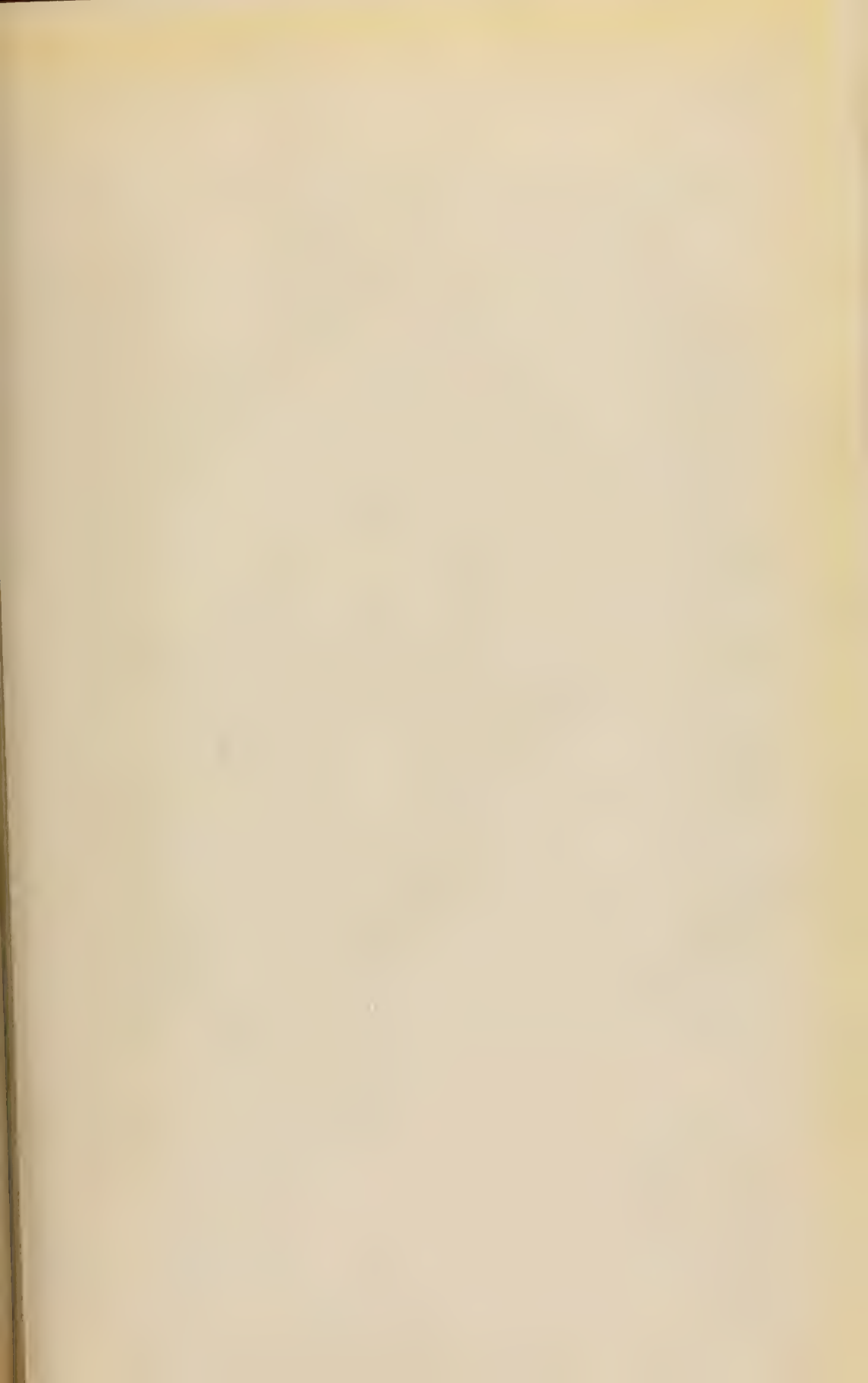
the highest grade paper made is still selling at the same price.

The time to buy is *now*—before the Christmas rush begins.

Remember that CYKO is worth more than gold to the photographer who has built a reputation for good work.

AnSCO Company

Binghamton, N. Y.





A PRIZE-WINNING PICTURE
By R. C. NELSON
Made with Flash Lamp

**CAMERA**



**CRAFT**

A PHOTOGRAPHIC MONTHLY**FAYETTE J. CLUTE, Editor****CLAUS SPRECKELS BLDG.****SAN FRANCISCO****CALIFORNIA****VOL. XVII****DECEMBER, 1915****No. 12**

Flashlight For Home Portraiture**By R. C. Nelson**

With Illustrations by the Author

I have been using flashlight in connection with my home portrait work for about three years, and find that I am not only getting better results all around, but am able to get these results with much less trouble and with less waste of plates than by the old way. With it I am able to give the people something entirely different and pleasing in the way of odd effects, different from what they have been getting from the ordinary daylight photographer; and, in that way, I am establishing a demand for my work. The instrument I have been using during this time is the Halldorson Home Portrait Flash Lamp.

Likewise, I have used it to good advantage in my studio and in making some of my recent prize-winning pictures for contests, where, quite naturally, I was particular in getting odd lightings and good expressions. With children, in particular, I find it invaluable, even in the studio, for the danger of movement is practically eliminated. With daylight, one must too often neglect the expression and direct all his attention to the securing of a picture without movement. With flashlight, on the other hand, one can catch the most fleeting expression without the slightest danger of getting a move.

The particular advantages of flashlight over daylight in home portraiture are its adaptability to all conditions and the accuracy with which one is able to judge of exposure and result.

Daylight, difficult as it is to control even under a skylight, can be used only under the most trying conditions in the home. To be sure, I can get some very good results with it now and then if conditions are favorable and I select posi-

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tions near large windows, but one's scope of action is so limited. With flashlight, on the other hand, I choose the most interesting locations for placing my subject; it may be by a fireplace or on the stairs, or better still, it may be directly against a window. In this way I get variety in my pictures, for I take them where conditions best suit the individual case. Furthermore, with the flash lamp I am independent of weather conditions and the time of day. Morning, night or noon—it is all the same to me.

But these advantages, important as they are, are no more so than is the absence of uncertainty that characterizes flashlight work. If there is anything I detest, it is going to a home and making failures of the exposures, and usually those one is most particular about are the very ones that are most likely to be made a blunder of by the photographer. With flashlight one is always sure of his exposures, for having once gotten the correct time and noted the amount of powder, the size of stop and the distance of lamp from subject, one has only to repeat the same process the next time. With daylight the light conditions in the home are so complex that the judgment of the most experienced operator is never reliable. Because of this certainty of result, I am able to save time and plates. Instead of wasting time and torturing the subject nearly to death by making two dozen exposures by daylight, as I used to do, I now make five or six by flashlight and every one is perfect. Thus, instead of the job being a pest, it is a pleasure with me.

In the matter of quality I find the flashlight picture, when properly taken, in every respect equal to the one made by daylight. In fact, in the majority of cases even an expert cannot tell it from the daylight picture. The old notion that all flashlight pictures must give the subject a ghastly appearance is not true when a modern lamp is used. The bag diffuses the light and gives it a beautiful softness such as is found only under the most favorable daylight conditions.

The prejudice that is supposed to exist on the part of the public against having their pictures made by flashlight I find short-lived, and is quickly dispelled when they are acquainted with the modern method. It is sometimes amusing, however, to enter the home of a wealthy patron and have the lady object very strenuously to the use of flashlight in her home, and, after having it explained how simple, harmless and smokeless the modern method is, to see the dear lady look up with astonishment, after the first exposure, at the unique contrivance and hear her say: "So that little thing makes those nice pictures! Well, isn't that wonderful; that surely is quite an improvement over the old way."

I have heard these compliments so often that they are getting old with me, and I have yet to find the person who objects to the little flashlight made by my Halldorson Lamp. On the contrary, the patron becomes interested and rather enjoys the event. There is not a speck of dirt to it, and I can come and go looking like a gentleman.

The lamp has a bag of fireproof fabric inside of which the powder is exploded. The igniter works with the shutter by means of a two-way bulb. The light from the flash is reflected forward through the translucent front-cloth upon the subject, while the smoke is trapped and held inside. After two or three exposures, depending upon the amount of powder used, the bag is carried



A PRIZE-WINNING PORTRAIT
A Combined Daylight and Flashlight Exposure

By R. C. NELSON

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FIRST PRIZE PICTURE BY R. C. NELSON
Made with Halldorson Flash Lamp

to a door or window and emptied of smoke.

The process of using the lamp is comparatively easy after one has learned a few simple rules. The amount of powder to use in a given case depends upon two things: the diaphragm opening of lens and the distance of lamp from subject. One simply has to remember that light varies inversely as the square of its distance away. This law, though not quite true with the lamp on account of the size of the source of light, is sufficiently accurate to follow for all but the closest distances. This means simply that, other things being equal, one should use four times as much powder with the lamp at eight feet away as one does at four feet, and so on. In the case of the lens stop, one regulates the amount of powder used to the size of stop, remembering that in this respect the stops work the same as with daylight.

Thus, if a given amount of powder is required with lens stopped to U. S. 4, one must double it when stopping down to U. S. 8 and use four times as much at U. S. 16. By understanding these simple rules and knowing the amount required for a given distance and stop, one has but to compute the amount for each exposure according to these principles.

With lens stopped to U. S. 8 and lamp four feet from subject, I use about five grains of Victor Fast flash powder, which, for lamp eight feet away, would mean about twenty grains. In every case I use the largest lens opening that will give me the desired definition, and confine my view to as small a space as is consistent with the purpose in hand; and in no case do I attempt to show a whole room or any large portion of it. It is sufficient to show the furniture and objects immediately adjacent to the sitter.

I set the lamp at a height to give approximately an angle of forty-five degrees, which means that its height should roughly equal its distance away from the subject. This distance depends upon the character of the picture and the

FLASHLIGHT FOR HOME PORTRAITURE

number of people to be taken. For busts I place it from three to four feet away, for two-thirds figures about six feet, and for full figures and small groups from eight to ten feet. I place the lamp to one side of subject and forward far enough so that a line through the lamp and subject forms roughly an angle of about forty-five degrees with a line through subject and camera. I use in every case a reflector to reflect back the light into the side of face opposite the lamp. In this way I get perfect detail in clothing on the shadow side and roundness and modulation in the face. This reflector to be most effective should have a surface of about $3\frac{1}{2} \times 6$ feet.

The example cited above is only for the commonest form of lighting. One may vary this arrangement to secure almost any kind of a lighting one desires. The lamp can be used in combination with daylight, if one wishes, by using two bulbs, one in each hand. Hold the shutter open long enough to get exposure in the high lights from the daylight; and, just at the end before closing the shutter, press the flash-lamp bulb with just enough powder in the lamp to give detail in the shadows.

Space does not permit me here to go into a description of the various kinds of lightings that may be had with flashlight. I can only say that its possibilities along this line are almost unlimited, and the ease with which it can be worked is a revelation to one who has confined his work to daylight.



What Makes The Movies Move

By Scott Leslie



With Illustrations by the Author

In my last article, "Making the Movies," I promised to tell in another "Why the Movies Move" and why it is that while the screen is dark one-half of the time we are looking at it, it still is apparently occupied entirely with a picture showing motion. I also promised to tell you something as to who invented this modern marvel.

Away back, years ago, when horse racing was the sport of sports—and kings, when the owner of a "string of racers" was an important and often wealthy individual, away back in those days the idea of the moving picture was born. It was out in San Francisco, the races were on and money was coming in hand over fist for those who knew the ropes. After the day's races, the wealthy horsemen would meet; and, over their large, cold bottles and small, hot birds, discuss the day's events and winnings.

At one of these meetings a discussion arose. One claimed that at a given instant, while trotting, a certain horse had all of his four feet off the ground. Another thought differently and was willing to wager cash thereon. As betting was the common practice, he found a ready taker; but a difficulty arose. How

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would they decide the question? A photographer was called in and the difficulty explained to him. He thought it over and decided that if they could get cameras enough and place them side by side for some distance along the stretch, he could catch every movement of the horse and so decide the bet.

It would cost quite a little money; but, with the filthy lucre coming quite easy why hesitate on that account, particularly when there was a chance of showing the other fellow he was mistaken? The photographer was instructed to go ahead. He rented, borrowed and bought the cameras necessary to cover the determined distance, and these he placed side by side along the stretch. To the shutter of each he fastened one end of a thread, extending across the track, so that as the horse sped past the shutters would snap in rapid succession, recording every phase of his movement.

Through this maze of thread the horse was run and as each one broke a shutter clicked, and with the cameras so close together it was impossible for any movement to escape being registered on the plates. From these negatives prints were made and the bet decided. To better show the different movements of the horse trotting, positives or lantern slides were made, and these were projected upon a curtain in the ordinary way.

In those days there was no such thing as celluloid film. All negatives were made on glass plates as were also lantern slides. To run a quantity of these last through the stereopticon, singly, one after the other, rapidly enough to suggest motion, was impossible, so an endless chain was devised. Holes were bored in the corners of each slide and all fastened together. The belt or chain so formed was then run over a wheel at the top of the room and down in front of the light. By moving this chain of lantern slides along at a rapid rate, an appearance of motion was obtained. The effect produced aroused much interest and it looked as though something good had been stumbled upon.

Well, so the story goes, these slides and the arrangement to show them were carried to Mr. Edison, with the request that he see what could be done with them. However, nothing came of it and they were laid away with other embryo inventions that had found their way to Mr. Edison. But later, when the celluloid film was invented, Mr. Edison brought out the old chain of connected glass-plate positives or lantern slides, a device that was too heavy and bunglesome to be practical, and endeavored to use the idea in connection with it, and success crowned his efforts.

Mr. Edison has been generally credited with the invention of the motion picture; and, while it is far from my desire to try to detract from his glory, it looks to me as though Mr. Edison did not himself invent them. He simply took up the earlier endless-chain-lantern-slide idea, utilized the new celluloid film, added a row of sprocket holes to the sides of the latter so that it could be moved along rapidly past the light. Upon these sprocket holes the success of the motion pictures depends, and it is said that Mr. Edison draws a royalty of something like seven thousand dollars a week on this little invention.

In the early days of the moving pictures the film was first run onto a reel that was suspended from a bracket at the top of the projector, from which it was drawn down past the light by sprocket wheels and then allowed to drop

WHAT MAKES THE MOVIES MOVE



CAMP IN THE EVERGLADES



AT WORK IN THE JUNGLE

on the floor. This careless handling resulting in fires, it was not long before the take-up was invented. With this the film is run from the upper reel, past the light and onto a second reel underneath, all automatically by the turning of the crank. As every projecting machine is now equipped with both this device and fireproof boxes for holding the reels, there is today very little danger from fire.

To still further minimize danger, every projecting machine is now equipped with an automatic shutter that drops in front of the exposed portion of the film the moment it stops moving. As the operator starts turning the crank, this shutter automatically rises and allows the light to illuminate the film and so project the picture. Should the operator stop turning the crank, down comes the shutter to protect the film from the heat of the light and the attending danger of fire. Furthermore, every operating booth is now constructed of fire-proof material. Some are built of solid concrete, some of metal, others of brick or asbestos. Should by any chance a film ignite, the fire would be entirely confined in this booth, and this the audience should always remember and never rush for the exits, for there is where the danger lies. If there is a blaze, keep your seats and wait; they are having their troubles up in the booth, but it is ten chances to one that it will not be many minutes before another picture will be merrily spinning along on the curtain.

The early projecting machines were imperfect in other ways than in the matter of fire protection. No shutter was used, the film being simply pulled along by the sprocket holes. As each change could be detected by the eye, it gave the pictures a jumping effect known as "flicker."

As each separate picture on the film is one inch wide and three-quarters of an inch high and the film run through the machine at the rate of sixty feet per minute, they are projected upon the screen in very rapid succession. These separate pictures, flying along at such a rapid rate, show every motion as a continuous one; therein lies the secret of their lifelike effect. When the changing as well as the showing of the pictures themselves is apparent, jump or flicker results and the utility of the winged shutter becomes apparent.

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To better explain how this flicker was eliminated, we will start with the operator threading up his machine. The film is brought down from the upper box and the "leader," generally a title, is made fast to the take-up reel in the bottom box. The first picture on the reel is placed in position before the aperture. The operator throws on the powerful light and shows the picture upon the screen, enlarged nearly eight thousand times, a powerful light and a good lens making this possible.

Starting to crank, the first part of the turn throws a shutter over the lens, cutting off the light entirely for a very small fraction of a second; but in that time the next picture is brought down into place. The shutter blade continues to revolve, the light passes through the film and the picture appears; and the process is repeated, the speed being nearly a thousand changes a minute. But, done so quickly and with the shutter cutting off the light each time the film is moved down, the flicker is eliminated and only the steady picture is seen.

"Well." I have been asked many times, "if that shutter cuts off the light entirely while each picture is moved into place, why is it that I cannot see the dark screen as well as I can the pictures?" As I have explained, the pictures fly past the lens at the rate of sixty feet of film or nine hundred and sixty pictures per minute. These nine hundred and sixty separate pictures appearing on the screen in such rapid rotation, the fraction of a second given to each picture is so small that the persistence of vision does not allow one to perceive the equally small periods of darkness between. In other words, the same amount of time being given to the changing as to the showing of the pictures, there are nine hundred and sixty dark spots on the screen as well as that number of pictures; but the fraction of a second given to this "dark change" is so small that the human eye retains the brilliant image of one picture until the next is shown.

I trust I have, in these articles, made plain the whole process of making and showing moving pictures.

In all the history of the world, no other form of amusement has taken such a hold on the people. In this country alone there are said to be over eighteen thousand regular motion picture theaters, not counting the many theaters and opera houses that use films during the summer months. These picture houses have a daily attendance that averages over sixteen millions. Just think of it!

When the Creator had made all the good and beautiful things in order that they might be truly appreciated, He then made the beasts and reptiles and poisonous insects.

When He had finished, He had left over scraps that were too bad to put in the rattlesnakes, the hyena, the scorpion, or the skunk; so He placed all these together, covered it with Suspicion, wrapped it with Jealousy, marked it with a Yellow Streak, and called it a Knocker.

Then as a compensation for this fearful product He took a sunbeam and put it in the heart of a child, the love of a mother, the brain of a man, wrapped these in civic pride, covered it with brotherly love, gave it a mask of velvet, and a grasp of steel, and called it a Booster.—VALENTINE JOBST, JR.

Practical Exposure Metering

By Hal G. Hall



With Illustrations by the Author



WINTER VIEW OF MT. SAN ANTONIO OR "OLD BALDY," NEAR POMONA, CALIFORNIA—In ray-screen work, correct exposure has a decided effect upon tonal values.

There used to be current an expression, "Oh, he's just a book-farmer." However, this expression has lost much of its sting since many "book-farmers" have come to ride in automobiles, while the neighboring farmer, who is merely "practical, and proud of it," still labors to pay off the traditional "mortgage on the old homestead." Similarly, a few years ago the user of any device to aid in determining correct exposure was generally looked upon as a "dub," that had better quit "while the quitting was good." Even yet, many timid souls continue to turn their backs when using a meter in the presence of another photographer, lest he be a "wise guy" who may deliver an un-called-for "bawling out."

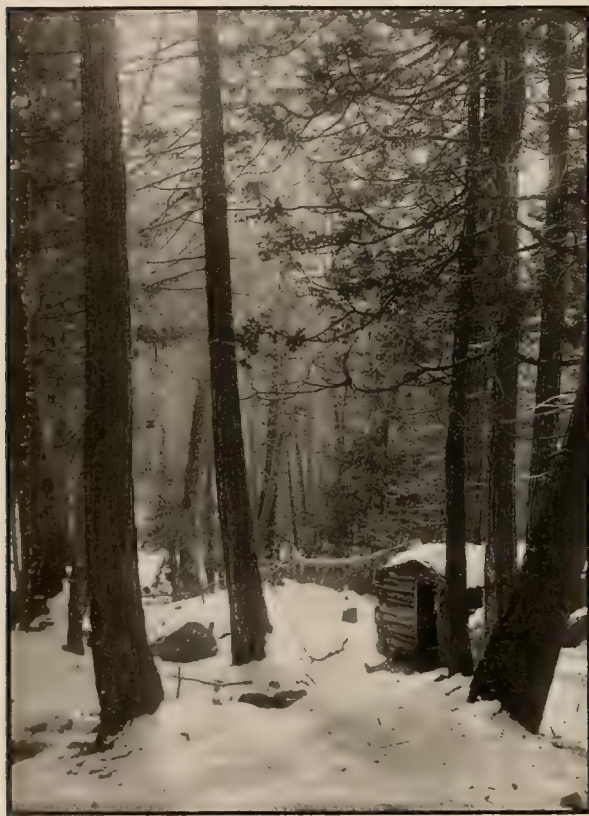
Nevertheless, it is a fact that the "wise guy" who

scorns the use of an exposure meter often is an adept in the use of the alibi. Old overworked favorites are: "The shutter fell down on me"; "It's the fault of the lens"; "One can never tell about the speed of plates or films"; "Some-buddy musta got hypo in the developer"; "Dark-room leaks"; "Unusual temperature"; "New formula," or perhaps, "Lousy laboratory work." Who has not heard the expert of the post-mortem alibi?

Anybody can "guess" correct exposure sometimes; all photographers with experience can "estimate" correct exposure most of the time; but nobody can

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know the correct exposure *every* time, without a meter. And what is more, anybody can estimate the proper exposure most of the time with a meter. While the intelligent use of a meter unquestionably saves the beginner a vast amount of expense and discouragement, there is also the striking fact that the meter is coming more and more into use by experienced photographers for the few but considerable instances where exposure is doubtful. Such doubtful instances are especially frequent on hazy, shadowless days, days that offer no obvious basis on which to accurately judge the difference between the brilliant, actinic haze permitting the fastest exposures and the dull, inactinic gloom requiring seconds with a large aperture.



"BACK LIGHT" EFFECT—These secured without harshness of gradation only with full exposure. Meter reading should be taken for shadows and over-development avoided.

er al years. Then, about the time I bought my 'steenth camera, I condescended to recommend a meter to a beginner of my acquaintance. I did this, not because of any great faith in meters at that time, but in order to save myself the embarrassment of admitting that I, myself, had no consistent basis of determining exposures. Then I was afflicted with mild qualms of conscience as to whether or not there was any merit in the meter that I had recommended to my trusting satellite, and I secretly found by experiment that a meter *did* "sometimes" indicate exposures that tallied closely with exposures as given by "rule

Unfortunately for the most general understanding and appreciation of the meter, it has until quite recently been handicapped by the attitude of many capable but prejudiced photographers who have condemned its use without serious consideration. A cheap, coupon-prize box camera with a ninety-nine cent "complete developing outfit" and an instruction book, was usually associated with a very confused novice laboring over an exposure table. No one denied that the photographic novice was helped, in his first efforts, by the exposure table. But the experienced photographer—and some not so experienced — disdained such humble assistance. Personally, I refused to admit that *any* meter could be of *any* possible assistance to *ME* until I had been "shooting" plates and film for sev-

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o' thumb" methods. As a result, I even used a meter occasionally when making Autochromes about six years ago. Now, when in any doubt as to correct exposure, I use a meter openly and brazenly.

Perhaps the most striking "testimonial" for the exposure meter is the fact that many of the most successful moving-picture camera men now use them. Among others are the head camera man of the world-renowned director who first predicted and brought to reality the "two-dollar movies," and a camera man who has been responsible for the photography in two of the largest film organizations in America. Near Los Angeles is another movie camp, well known for its big "feature" productions. An experienced newspaper photographer turned up and asked for a job. One of the regular staff camera men was on a "bat," one director was short a camera man, and the director-general of necessity "took a chance." But

the new camera man did not feel that he could afford to take a chance on making good; so, instead of taking chances, he took an exposure meter and used it on each new "location." For his pains, the other camera men gave him the merry "ha-ha." However, reports from the laboratory showed that most of the meter-timed film could be printed with but a very few points variation in the printing light, while "retakes" because of photography were few and far between. Meanwhile, the scoffers were under-exposing and overtiming film made under the same light with comparative frequency.

Result: director-general bought seven meters, each camera man received a meter from the director-general, and the ex-newspaper photographer received a raise and a two-year contract. And this is a true story.



AN ODD LIGHTING—In securing such light effects, proper exposure bears a most important relation to the quality of the resulting picture.

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However, this article is not intended to urge the use of a meter, but to explain a few practical points that may easily confuse one who is not sure that he can infallibly judge any delicate gradation of light unaided.

First, as to the distinct types of meters, there are the monthly "table" meters, ranging from a small card to an elaborate combination of indexes with some form of slide rule; there are the "tint time" meters, ranging from a note book with a strip of solio paper to an expensive metal cylinder, having six interlocking scales, a blue screen to cut out inactinic rays and a pendulum to count seconds by; and there are the "prismatic" type of meters with which the subject is observed directly, cutting down the light until required shadow detail is barely visible.

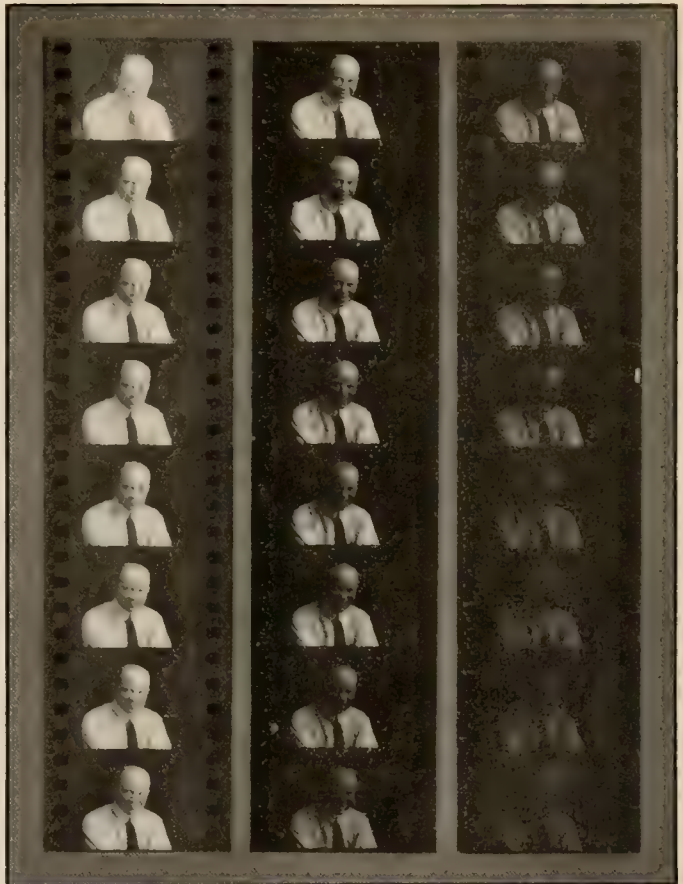
Briefly, all "table" meters consist of some arrangement by which the exposure is determined with the assistance of tables or slide rule device, or both, from the given factors, plate or film speed, season of the year, time of day, kind of weather, class of subject, lens stop, etc. Examples of the table meters are the "Cheape" meter, "Six Fax" exposure disc, "Ideal" exposure scale, "Wager" exposure scale, "Brown's" exposure disc, and the "Burroughs Wellcome" exposure table. As a class, the table type meters are inexpensive, compact and readily understood from the directions. On the other hand, any table meter can be accurate only under what might be termed "standard outdoor" conditions, i. e., rather open-to-the-sky character of illumination. Even on a porch or in the shade of heavy foliage, so much is left to the personal judgment that the table meter may as well be dispensed with. Also to a certain extent, determination of weather conditions and of subject classification is left to the judgment of the photographer. In fact, the table meter is not so much an instrument of precision as a good assistant-guesser. Nevertheless, any table meter will check many a wild guess for the beginner.

The basic idea of the "tint" meter is that with any particular plate a correct exposure is obtained with a certain fixed diaphragm opening, in the same time that is required for the tint paper to color to a standard tint when the meter is exposed to the same average light that falls on the subject. The tint time as obtained by test is put opposite the stop number for the plate being used and a slide rule device simultaneously indicates the correct exposure for all stops. Exceptions to this general plan are the Watkins meters, which, though designed on the same general principle, use an arbitrary set of Watkins plate speeds instead of the usual f. or U. S. numbers that appear on most shutters. Thus Watkins 400 corresponds to f-90, or about U. S. 512, and a plate listed at U. S. 256 on a Wynne meter list has a Watkins speed of about 200. However, it is safest to try out a brand of plates to be sure that the brand is listed properly, which is not always the case.

Prominent among the "tint time" type of meters are the Wynne, Adams and Watkins meters, which are made in varying styles and with special dials for various classes of work, including Autochromes, high-speed shutter and moving-picture photography. Of course, the chief advantage of the tint time type meter over the table meter is that, properly used, it indicates the light that actually falls on the subject, while a table but indicates the light that would

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prevail if every factor of the table were according to the estimate. Once the plate or film speed number is correctly determined, preferably by actual trial with normal development, the exposure as indicated by a tint meter need not be altered, except for extremely bright or distant and extremely dark or near objects. As a class, tint meters are more expensive to buy than the table type, and occasional refills of sensitized paper must be purchased. However, tint paper may be considered as very nominal insurance when it is remembered that one has to save but one plate or a couple of feet of film to pay for half a thousand tests. The majority of tint meters are somewhat more compact than a dollar watch, and at least as accurate, once the correct stop value has been determined for the particular plate one is using. Even the slight variations personal equation in tint matching might involve, comes well within the latitude of any emulsion except that of the ortho or color sensitive one with which of course



PRINTS FROM NEGATIVE MADE WITH MOVING-PICTURE CAMERA—Illustrating over-exposure, correct exposure and variations, correct Heyde meter reading was taken with about as much detail visible as shown in middle of strip on left.

the utmost precision is required in the exposure. When using a ray filter and orthochromatic plates, the approximate exposure may be obtained by using the same ray filter on both meter and lens.

In the "prismatic" or "blue glass" type meter, of which the Heyde Actino-Photometer is the best known, there are two or more strips of blue glass of varying thickness, with a mechanical arrangement by which the position of the blue glasses may be changed. Using the prismatic type meter, the photographer watches the subject through the blue glass and gradually moves a thicker section of glass between the eye and the subject until the shadow detail desired in the negative is just barely visible. An indicator points to an arbitrary number on a

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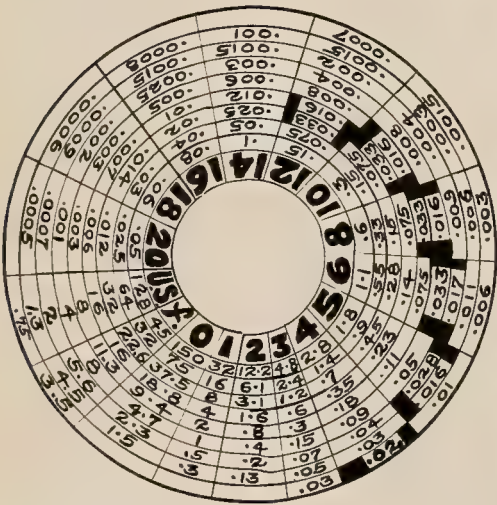
dial. Referring to this number on a scale, the photographer reads at a glance the exposure for any stop. When this scale is properly computed for the particular plate or film speed of the emulsion being used, with normal development, the same amount of shadow detail will be obtained in the negative as was barely visible upon looking at the subject through the meter. The only drawbacks of the prismatic meter are initial expense, comparative bulk, and the fact that a special scale must be computed for every different plate or film speed if the photographer does not confine himself to the use of plates or films of about one degree of sensitiveness. On the other hand, there is no sensitive paper required; after some practice the exposure is quickly and accurately obtained by one look through the meter and a glance at the scale; by looking at the subject to be photographed through the prism meter, the difference in exposure between near and far distant objects is automatically registered, except in copying, when the usual rule of comparative squares of bellows extension applies. Observing the subject through the blue glass prismatic meter, the photographer can by daylight see the approximate photographic values of colored objects as they will register on the most generally used brands of film and fast portrait plates. By holding

the ray filter that is to be used in front of the meter, one can very closely estimate the exposure required when using the same filter with orthochromatic plates. However, the meter is not dependable in artificial light, which is best calculated from number and character of illuminants after tests at similar distances. Also it is best to adapt the scale to the particular plate and when using filter to multiply the indicated exposure by the factor that is found from actual experiment to be required with the particular plate and filter.

Personally, I find the Heyde meter to be unequaled in determining the

exposure that will give just the gradation of tones desired in the negative with normal development. As the light is cut down, the visual effect through the meter is very much the same as that of a shutter or diaphragm (not front iris) "fade out" used in moving-picture work, and the indicator on the meter simultaneously shows the stop required for the effect in the negative.

As the regulation scale on the Heyde meter is made for use with a slower emulsion than I generally use, I have designed a convenient special scale, reading in decimal parts of a second, for use with fast plates in a Graflex and with moving-picture film. This is reproduced herewith. One can either cut out and use this sketch, have a special metal scale made at a stamp and badge factory, or one can lay a scale out in large size with India ink, copy it down, glue it over original scale, and protect it with clear celluloid. I find that a tinted band



PRACTICAL EXPOSURE METERING



UNDER-EXPOSURE WITH NO IMPRESSION ON PLATE EXCEPT IN HIGH LIGHTS—This results from using too high a plate speed number with a "tint" meter or by closing down a "prismatic" meter beyond the point where detail can be clearly distinguished in shadows.



OVER-EXPOSURE WITH HIGH LIGHTS "BURNED OUT" AND GENERALLY FLAT RESULT—This results from using too low a plate speed number with a "tint" meter or by opening aperture of a prismatic meter further than necessary to distinguish shadow detail.

for each diaphragm "zone" simplifies the use of the scale. In addition, I have put heavy marks beside the stops to be used with a moving picture shutter, set at 120-degree opening,—one forty-eighth second exposure. For any one disliking decimals, I would suggest fractional equivalents, which will indicate about one-tenth the exposure as marked on the regulation scale, affixed to the Heyde meter.

Although there is a special Kinematograph meter of the tint-time type, made by Watkins and other manufacturers, I have personally found a modified Watkins Standard meter to do all that can be expected of a tint meter. While the special Kinematograph meter is especially designed for moving-picture work, the Standard, cylindrical form, meter can be used with any emulsion from Watkins speed 400 down to Watkins 1. If a ray filter is used, one can, with the Standard meter, start with a lower speed number; thus if a five times filter is used on a Watkins 400 film, speed number 80 can be used and meter operated as usual. For moving-picture work, I have had an extra scale engraved on the extreme right end of my Watkins Standard meter to indicate shutter opening in degrees. Thus, instead of looking for one forty-eighth second in using the meter, I look to the right of the fractional-seconds scale and find 120 degrees; instead of one ninety-sixth second, 60 degrees, etc. In actual practice, it is often convenient to set the right-hand movable ring, E on Standard meter, to desired shutter opening first, then set the left-hand movable ring, P, to film speed,—400 with Standard meter, and then set the middle movable or tint-

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TAKEN IN A DEEP CANYON BY LATE AFTERNOON LIGHT—Such light is very deceptive and under-exposures are frequent without a meter.

time ring so that proper tint shows above A, when the proper stop will be shown above D. If a certain stop must be used in lens to secure proper depth of focus, P is set to film number, D to stop number, A to tint-time number, when E will indicate correct shutter speed, or degrees of shutter opening when turning at two turns per second. This is in reality much simpler than it sounds, and requires but a few seconds to do after tint time is found. With the Standard meter, which has blue glass over tint paper and standard tint, the most accurate result is obtained by taking the tint time when the paper is only half as dark as the darker standard tint. This half tint requires about one-third the time of the full tint, or almost identically the same time as for full tint with the other Watkins meters or Wynne meter, without blue glass.

As to dependability of meters, I have on several occasions timed an exposure independently with Wynne meter, Watkins Standard meter and Heyde Actino-Photometer. In no case was there a difference of more than two times, which is well within the latitude of a plate or film to produce a negative of perfect gradation. To the majority of experienced photographers, the meter will prove not so valuable in preventing the loss of plates altogether by entirely wrong exposure as in getting just the right exposure that is so essential for a particular effect. At least, the use of a meter should not be condemned in a large, vague, general manner, for it is always a safe bet that one who does this has never given a good tint or prism meter a thorough trial, and that the man with anti-meter-phobia *sometimes* makes negatives that would be better for the intelligent use of a meter.

Cameras and Amateurs

By Arthur Palme



With Illustrations by the Author



INDIAN PIPE—10 a. m. June. Bright sunshine. F-8, one twenty-fifth second, Instantaneous Iso plate.

THE QUESTION, "What kind of a camera shall I buy?" has been asked by every amateur who started to enter the photographic game. It has also been answered many a time, mostly in catalogues gotten out by dealers whose interest it was to focus the reader's attention upon some certain kind of camera that the particular dealer desired to sell. Seldom will such advice be found to consider the habits and aims of the individual worker. In the following will be shown, without any reference to a special camera, what can be made with and expected from the three main classes of photographic apparatus, namely, a cheap film camera, a plate camera and a reflecting camera.

Taking the average film camera, certainly ninety per cent of the present army of amateurs use, with more or less skill, this popular form of instrument, and it is surprising what neat little pictures result, under favorable light conditions. All of the pictures taken with such a camera are

snapshots, mostly one twenty-fifth of a second, with little if any artistic value. Artistic value is rather difficult to obtain, as there is no means of seeing the picture before it is developed. The overwhelming majority of these amateurs do not demand prints of artistic value, nor do they understand or appreciate that quality. Their aim is a mere record of happenings around their home or on trips. As practically none of these amateurs know what they are really doing, from the optical or chemical standpoint, all finishing being done by others, the greatest simplicity of their cameras is required. The correct placing of the film spool is about the most complex thing they have to deal with, and many have even that done by the clerk in the store. "Snap the picture and we will do the

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rest" is a famous slogan, coined many years ago by a large photographic manufacturing concern. All in this army of amateurs know that sunshine gives them their only chance to succeed in making a "snap"; tripod and time exposure are terra incognita.

If one is satisfied with the usual results and desires only to take his camera afield on sunny days, let him go ahead, invest in such a one, price two to fifteen dollars, and join the merry throng. But should one's pictures lack likeness or should the face of a person belonging to the white race show up as black as shoe polish, he should not place the entire blame on the camera; one should not expect too much from so modest an investment. But, from an egotistic point of view, it is quite good that the average amateur does not know any more than he does. The competition between amateurs furnishing suitable pictures for newspapers and magazines is already severe enough. Let a newcomer try to dispose of some of his pictures or compete in a contest and he will be surprised to find how hard it is to secure recognition. One may think the world of his own pictures, only to find that others have produced far better ones.

Every "Snapper" or "Filmist" who subscribes for one or more of the several photographic magazines has, as a rule, a desire, or at least an inclination toward, the making of better pictures. He intends to learn the "How's," he reads criticisms on pictures of others, and develops, in most cases, into a real amateur, provided he has the patience and ambition to overcome the many stumbling-stones encountered in his early efforts. Once he reaches such a point in his experience that he is able to make almost faultless pictures, he may then tempt Fate by sending samples of his work to the publishers, always, of course, with return postage, because they will be very likely to return his first offerings. He should try and try again, because some day one of his pictures will find a buyer, on account of its beauty or uniqueness, and the ice will be broken. With every future print he may refer to the previously accepted one and in so doing dispose of it more easily. So doing is much like a story writer's putting under the title of a new story: Author of so and so.

But, as a rule, long before the amateur reaches this point, he has dropped his film camera and bought a by far more expensive plate camera, having for the former one but a pitiful smile, calling it occasionally his "Ford." Plate cameras enter quite naturally at this stage where the amateur gives up the convenience of films and the possibility of carrying his whole photographic outfit in his pocket. The new camera with its plates and holders will occupy considerably more space, its user will have to strap it on his shoulder and carry a tripod besides. This may impose quite a burden, but the amateur will get used to it by and by, the more that he feels that in so doing lies the only way to get something really worth while. No troubles, no results. I will not say that a good camera on a tripod furnishes automatically excellent results; an experienced operator must be behind it before the outfit will do the rest.

With the plate camera the view or scene can be critically selected, camera and tripod will have to be set up, careful focusing and arranging will be necessary, the lens-board will have to be raised or shifted, the right stop considered, the filter put on the lens, the plate inserted and finally exposed. This involves

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"GOT HIM"—8 a. m. August. Dense fog on sea. F-6, one twenty-fifth second, Instantaneous Iso plate.

quite a number of operations, each one requiring its time and the exercise of some judgment; somewhat different from a mere peep in a microscopic finder followed by a freehand snap.

I do not intend, in this article, to enter into an argument on lenses and shutters. So much has been written thereon that the reader may be referred to the back numbers of his favorite photographic magazine. One detail, however, one which is not generally known, I would like to mention. On nearly all cameras equipped with a between-the-lens shutter, instantaneous exposures are never made at the optical speed that the diaphragm is set for. To explain this: Having the mechanical speed of the average shutter set at one one-hundredth second and the optical speed set at $f-8$, the exposure will be made at approximately $f-16$, because it takes nearly half the time of the exposure to open and close the sectors of the shutter. Only a focal plane shutter has one hundred per cent optical efficiency, really taking instantaneous exposures at the " f " efficiency at which the iris is set.

Speaking of efficiency in general, I think I have touched upon quite an important factor. There is no such thing as an amateur who takes only landscape; *i. e.*, time exposures; and, on the other hand, none there are whose only hobby is to arrest more or less fast motion. Every amateur takes what appears to him to be of interest; today he photographs a flower requiring perhaps several minutes' exposure and tomorrow he shoots the winner in an automobile race; and both pictures should, he feels, come out perfect. In other words, his camera must permit of efficient, all-around work. To accomplish this and to be able at the same time to act independently, within a reasonable limit, of the light conditions, a fast lens is imperative. It is true that the higher the lens speed em-

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ployed, the more depth has to be sacrificed; but this is a minor disadvantage, as the full opening, the highest speed, will be used very seldom. Stopped down to f-6 or smaller, the fastest lens has plenty of depth.

To have, therefore, an efficient all-around working camera, it is necessary to have a lens of a very high speed, say f-4.5, a shutter with a wide range of speeds and a bellows extension of at least twice the focal length of the complete lens; the latter to photograph small objects full size, for copying and for flower photography. As to the size of plate, I would say $3\frac{1}{4} \times 4\frac{1}{4}$ or 9×12 centimeters is the most convenient. It gives, even after masking, contact prints of sufficient size, while the negatives permit of enlarging to almost any extent.

Do not try to bait an editor with pictures $3\frac{1}{4} \times 4\frac{1}{4}$, as these little things are invariably thrown into the waste basket, no matter how large a mount has been used. The great variety of enlarging papers now on the market furnish the right grade for every negative. One may enlarge one of these small plates to 8×10 so perfectly that an experienced photographer or editor will not distinguish between the results and a contact print from a full-sized negative. 5×7 , or better, 8×10 , is the size editors like. Do not bother with mounting; just make a narrow white margin all around the print, and send the pictures perfectly flat. I use mostly double-weight paper.

There is no doubt that a camera, as described above, meets every condition that may ever present itself to the amateur. If, however, pictures such as landscape with clouds, flower studies and others that demand a time exposure even under ideal light conditions on account of either a small stop or a ray filter being necessary, are being made, a camera of the reflecting type is of great advantage. A newspaper photographer is rarely if ever asked to take the kind of pictures



JUST OUT—11 a. m. June. In shadow, bright day. F-6, one-tenth second, Instantaneous Iso plate.

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CLOUD STUDY—2 p. m. May. Bright light. F-12.5, one-half second, three-time ray filter, Instantaneous Iso plate.

mentioned above. What he is after are records of daily occurrences, artistic merit being of secondary consideration. However, his pictures must be made under varying light conditions and must be the acme of clearness, as every photograph loses almost fifty per cent of its detail when reproduced for the rapid newspaper press and the coarse paper used. The required needle-sharp definition necessitates a very careful focusing on the ground glass; but the "Staff Photographer" has, in most cases, to make his records in such short order that he has absolutely no time to set up a tripod, unfold his camera, crawl under the black cloth, and so on. This is where the advantages of the reflecting camera come in; stop and speed can be set in advance or in zero time, a glance in the light hood and a turn on the focusing knob bring the scene into perfect focus and place; down goes the curtain and the record is made. All this happens quicker than these words can be read.

Most of these cameras are equipped with a magazine to hold twelve plates, and as changing the plate takes but five seconds, one can realize how rapidly such a sharpshooter can fire, if necessary; and each of the pictures so secured must be perfect. With no other than a reflecting camera can such excellent results under varying conditions be reached. It is with such a camera that pictures of children, animals and other constantly moving objects can be made with the minimum of trouble. Of course, one is able to secure just as perfect records

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with a camera as described in the second paragraph by simply focusing on a certain spot marked with some inconspicuous thing and then waiting until the subject occupies just this spot; but this takes quite an amount of patience. If photographing a diver, take him from the side so that his distance from the lens is always about the same. Focus on the end of the springboard and watch his motion in the direct view finder, with which one can follow the motion and accommodate the slightly changing focus.

The great inconvenience of such a camera, complete with magazine and carrying case, is its bulk, measuring, for example, for a $3\frac{1}{4} \times 4\frac{1}{4}$ model not less than $7 \times 8 \times 9$ inches. Furthermore, I know of no handy reflecting camera on the market having double bellows extension, an imperative necessity in an efficient all-around instrument. A reflecting camera is therefore the only one a staff photographer can use with success and is a great advantage for child portraits, athletics and animal records. It is not a perfect all-around camera, but it furnishes wonderfully clear pictures, quickly and with more than usual certainty.

Having read the above, it should be easy for one to decide upon the right kind of camera for a given purpose. Careful thought should be given to the lens to be chosen. Three or four catalogues from leading optical firms and the perusal of a few articles on the subject in photographic magazines will give one much wisdom along that line. Bear in mind that the lens is, after all, the most important factor; eighty per cent of the entire credit for a good picture belongs to it.

Spend on the outfit as much as your bank account allows and remember that it is false economy to try to save on a camera. A first-class one will be a source of constant satisfaction; and, if you intend to publish, it will, by making one's pictures more desirable, soon pay for itself.

This article is illustrated with a number of reproductions that show what can be and has been done with a camera that, in my opinion, is an efficient, all-around one. It is a $3\frac{1}{4} \times 4\frac{1}{4}$ folding camera, equipped with an anastigmat lens, a shutter for automatic speeds up to one three-hundredths second, more than double bellows extension, and all the other details of a modern instrument.



Mt. Lassen In Eruption

By Chester Mullen



This series of pictures shows four phases of a recent eruption of Mt. Lassen in the northern section of the Sierra Nevada Mountains, situated in Shasta County, California. This is the only active volcano in the United States. The first picture shows the start of activities, the second was made two or three minutes later, the third after about five minutes longer had elapsed, and the last as the eruption had nearly ceased, some fifteen minutes later.

These were made at a distance of between four and five miles, using an

MT. LASSEN IN ERUPTION



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8x10 camera, fitted with a Turner-Reich lens of twelve inches focus and a three-time ray filter. The time was between twelve and one o'clock, October fifteenth. An exposure of one twenty-fifth second was given with stop f-11, using Seed L Ortho plate.

In this case, the camera was pointed to the southeast and the slight breeze, as can be seen in the last view, carried the smoke and ashes away and to the other side, traveling from ten to fifteen miles. In some cases the ashes have been carried a distance of a hundred miles or over, generally north or south with the prevailing winds, so that one photographing the eruption from the point selected, the northwest shore of Manzanita Lake, is quite sure to have the best view of the cloud of smoke and ashes as it floats away.



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PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

PHOTOGRAPHING OAK PIECES: I have found that if one will take a soft cloth, saturate in a solution of one part kerosene and two parts naphtha and rub over the piece, it will help to bring out the grain. This pertains, of course, to pieces that have not been varnished.—F. H. K., Wisconsin.

AMIDOL STAINS: Amidol is my favorite developer for both developing papers and bromide enlargements, but until recently I was often troubled with quite persistent stains. Recently I was advised to try a weak solution of sulphuric acid, about ten drops to the ounce of water, and I find this most effective in removing such stains.—W. E. R., Pennsylvania.

A HELP IN WEIGHING OUT CHEMICALS: Unscrewing the steel strip in which are set the weights of my photo scales, I placed behind it a piece of bristol cardboard, wide enough to project slightly in front of its edge, and screwed it back into place. On this strip of paper I marked, opposite each weight, its equivalent in grains, as follows: two ounces, 880; one ounce, 440; one-half ounce, 220; three drams, 180; two drams, 120; one dram, 60; two scruples, 40; one scruple, 20; one-half scruple, 10. It then becomes very simple to select the weights needed for any item in a formula.—G. L. Waterbury, Kentucky.

BACKGROUNDS FOR FLASHLIGHT PORTRAITS: I have recently made a large number of home portraits by flashlight and find it generally quite easy to get over the difficulty of a background by posing the sitter just outside an open doorway, one having sliding doors, between two rooms. The wall of the room behind the sitter is at such a distance that, if the room is not unusually well lighted, it comes out as quite dark and of course entirely out of focus and atmospheric. With anything directly behind the sitter, there are both an undesirable shadow and frequently an obtrusive sharpness of a wall-paper design or something of the kind that is objectionable.—B. N. M., Arizona.

A GOOD FURNITURE STAIN: Using pyro as my favorite developer, it is the easiest thing in the world to save up the old solution that has lost its usefulness through becoming dark and discolored. This I allow to become still more oxidized by exposing it to the air on an uncorked, wide-mouthed bottle. Much of the furniture in my rooms I have made myself from a good quality of pine or other light-colored woods, giving the finished pieces a good coating of this old pyro solution. This stains them a very pleasing dark brown color and leaves the surface in fine condition for varnishing or painting, as I may elect. Much of the woodwork about the place has been given the same treatment and visitors often compliment me on the richness of the effect.—T. G. B., New York.

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Is There a Change?

It is not so many years ago that the photographic press gave space to much good advice about the use of models, the importance of working to a definite aim, the selecting of a title and the making of a picture to fit, and the like. Even the worker intent on landscapes only was advised to take with him some one or more companions equipped with the necessary costumes to play the part of a Maud Muller in one picture, the fisherman's daughter in another, and so on through a list of possible situations. True, two or three of the leaders of that period, men like H. P. Robinson, did do some very creditable work along this line. But even they did not always succeed in securing even a passable amount of that art which is so all important, the art of concealing the art behind the production. Too often the labor involved was all too evident. In the hands of less capable men, the plan, logical as it seemed, was most illogical in its results. The reason is not far to seek. Granted a perfect photographic technique, there is still required an appreciation of situation that would be a valuable asset to a dramatic author, combined with an artistic perception that would be a credit to a great painter, before one of these posed and built-up compositions could be called effective or even thoroughly satisfactory. There is, with such work, an entire lack of spontaneousness that is all the more evident in this day of hand cameras than was the case when the larger view cameras and time exposures were the rule. The hand camera and perhaps a greater demand for sincerity in our art as well as in our literature are responsible for the change. The subjects in many of our best pictures, those pictures that find their way into the exhibitions, appear to be unconscious of the camera because they were actually so at the time the picture was taken. Of course, this more recent method involves the taking of a large number of unsatisfactory pictures in order to secure one that is of exhibition character, and yet this method does not relieve the photographer of any of the responsibility as to artistic perception or appreciation of what we may call situation, that the former plan demanded. It does in fact demand more; it demands that the same capabilities be coupled with an alertness equal almost to a gift. The truth of all this is brought strongly before one when he comes before a collection of photographic pictures such as those recently exhibited in this city, the work of J. Dunbar Wright, mention of which was made briefly last month. Mr. Wright knows but little of the technique of photography beyond the fact that f-16 and an exposure of one twenty-fifth of a second give him a good average or printable negatives. His work is all done with a small hand camera and his prints are all straight enlargements somewhat softened by the printing medium used. However, with the appreciation of lighting and arrangement that his training as an artist gives him, he employs an alertness that an active mind bestows, with the result that the opportunities

presented by his travels result in the securing of many pictures that rank very high in the exhibition class. If there is this change to a more spontaneous treatment, and we believe there is, the matter is well worth our consideration, particularly such of us as aspire to salon and exhibition honors.



An Appreciation

By Louis Varnum Woulfe



Born of the daily need of a people. I am the historian of now. The graphic biographer of the times. Delineator of nature and human nature. I see people always at their best.

My microscopic eye is all-watchful. I revel in the sunshine and work patiently in the gloom. Beauty, charm and wealth smile before my face. Mine is habitually a picturesque mood. I am a detective. I develop facts. Night, nor day, nor season can stop my vigilance. I am always ready for service.

Those who designed me cease to be. The alert mind and toiling hands that fashioned me go the way of human dissolution. Yet I live on and never fail to testify to their genius.

I am plain in attire. Majestic in my power. Wonderful in my usefulness. To me are given sacred happenings and I take them conscious of the trust. My career is one great picture play.

I am the consort of kings. The partner of recreation. The friend who educates and delights. The writer of romance. The companion of the traveler. I make for mental poise and vigorous brawn. My work is at times a witness in court. I am the champion of right.

My responsibility is unending. Wherever human life is affected—on the battlefield, at the fireside, in disaster, I am ever ready to tell the story. Gorgeous sunsets, the grandeur of the moonlight—all the masterpieces of nature's painting find their reflection in me. I get into focus and the world sits up and takes notice. I shut my eye and people stand wondering. The somber silences of the woods awaken in my presence. I am a voice speaking in the wilderness. The crowded streets of the metropolis ever give me a cordial reception. I affirm in terms of lights and shades what individuals express negatively with the gift of speech. Rightly handled, I am the Creator of Art. An architect of memories. I am the pioneer in the forest of adventure. I am the teacher of perseverance.

I record the seconds of joy, the moments of pleasure, the hours of romance, the days of loveship, the tender and tragic story of old age.

I AM THE CAMERA.

For every art is a language, and to secure power and beauty and adequacy of expression a man must command all the secrets and resources of the form of speech which he has chosen.—HAMILTON WRIGHT MABIE.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Removing Marks From Glossy Bromide Paper

I recently received an inquiry concerning the above trouble and cannot answer it better than by the following directions of the English expert, E. J. Spitta:

Stress marks are often met with when glossy bromide paper is used for printing. They are too well known to need any special comment. Defects of this kind often necessitate throwing away proofs, causing much waste of time and giving no end of trouble. There is another deterioration, too, that occurs when the paper is rather old. This consists of a kind of dirty greyness that covers the whole picture, quite spoiling the white background upon which a masked print may be shown.

Several methods of removing or preventing both these troubles have been published from time to time; but the writer has never met with the simple method about to be explained, although it seems highly probable it may have been employed before.

The remedy is exceedingly simple, and can be put into execution forthwith without any previous experience, a little care being all that is necessary.

After the print is fixed, it is placed on a piece of glass and just a flush of water is passed over it, the print being prevented from slipping off its support by holding one corner with the thumb. Some hypo out of the fixing bath (provided it is clean) is mixed with equal parts of water—say an ounce of each—and placed in a wide mouthed glass measure. To this is added about half a teaspoonful of a ten per cent. solution of potassium ferricyanide. This should be quite freshly made, unless it has been kept in a closely corked bottle which is made of dark glass, and preferably kept in the dark. The solution certainly deteriorates if it is kept in daylight. When the solutions are well mixed, a little wad of wool is rolled up (about the size when wet of a large walnut) and squeezed

two or three times in the mixture. Finally enough is taken up with it so that the wad is neither dry nor streaming.

Holding the glass with the print upon it obliquely, so that fluid runs quickly off it into the sink, the wool is run round the lower part of the paper, covering the white margin but not encroaching upon the picture itself. This is done as quickly as possible, and the glass is immediately placed in running water, not being examined until it has been gently washed.

This is particularly recommended, as there are occasions when examination conducted before washing has resulted in a too severe action of the clearing solution. The cleansing effect will be noticeable at once, but the operation can be repeated if the whites are not quite sufficiently clean.

The glass support is then turned round, so that all the other portions can be similarly treated, when the finished result leaves nothing to be desired save the treating of the picture itself. One quickly delivered swab all over the print in one bold sweep completes the operation. The result is not a little surprising to those who have never used the method before. It is necessary to wash the print well before allowing it to dry.

It may be mentioned that if, when the print is dry, some marks still remain, no harm happens by a repetition of the entire process.

White Carbon Tissue

Last month I gave an account of this new development in carbon printing and the following review in the *British Journal of Photography* will, perhaps, strengthen the curiosity of many carbon workers to try out its possibilities.

In placing upon the market carbon tissue bearing a white pigment the Autotype Company, 74 New Oxford Street, London, W. C., have, to all intents and purposes, introduced to photographers an entirely novel printing process; at any rate, one which has no counterpart among the

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various printing methods which are now commercially available. A moment's consideration will show that a print upon this tissue from a negative will yield a negative image when the developed print is transferred to any support which is darker than itself. It cannot very well be transferred to anything lighter than itself, for it has a creamy white surface, which on any dark support appears to be a perfectly pure white. Thus the tissue requires to be printed from a positive, and the visible image, when transferred to a dark support, is then also a positive, but one differing fundamentally from any ordinary positive print. The heaviest deposit of pigment forms the high-lights of the subject, while the shadows are formed by the dark support, upon which there is no white deposit. To put it another way, the white image acts towards the dark support as a graduated stencil. The portions of it representing the highest lights cover the support entirely; the shadow portions leave the support uncovered, while parts representing the half-tones permit of the support showing more or less through the white deposit.

It will be realized at once that for certain practical purposes this topsy-turvy system of printing has certain unique advantages. It is the only process which allows of the natural surface of, say wood or canvas showing to full effect in the shadow parts of the subject. In the case of most subjects that is just where it is wanted to show, whereas by an ordinary carbon print, or by any method of transferring a positive print to any surface, it is in the high-light portions that the grain of the surface is prominent. The Autotype Company have produced some very nice examples of the use of the process in the way of labels, etc., on wood, in which the white lettering looks extremely well upon the natural surface and color of the wood. Similarly, in the case of portraits applied to wood, all the soft gradation of the face or light draperies is rendered by the white pigment, while the background and the darker parts, such as the hair, exhibit the texture of the wood.

The process, however, is applicable also to the making of portrait prints, which likewise exhibit altogether novel effects. The white image, by transference to a black transfer paper, yields an exceedingly pleasing effect of

a circle-portrait upon a dark surrounding, obtained simply by laying an ordinary mask upon the positive transparency when printing. Even more attractive, by reason of their novelty, are the effects obtained by making suitable choice of ordinary carbon tissue as the material for the support of the white pigment image. The tissue can be rendered insoluble by treating with bichromate and very full exposure to light, and we have been interested in seeing the very pleasing effects obtained in this way by using green, brown, blue, or grey tissue for the reception of the white image.

As regards practical manipulation, the tissue differs slightly from the ordinary variety. It is best sensitized in a comparatively weak bath, about two and one-half per cent., and does not call for the use of an actinometer, since the progress of printing can be gauged by the bichromate image. Moreover, an alum bath should not be used, it having a prejudicial effect upon the pigment. The process is one which provides such a ready means of producing exceptional effects that we have no doubt professional photographers will make a note of it when seeking for some entirely fresh style in portrait prints.

Photographic Phantoms

From time to time interest is aroused in what are called "spirit photographs," photographs in which, in addition to the image of the sitter taken in the ordinary way, other images appear. It is claimed for these that they represent incorporeal beings—"spirits," in common parlance—and that they have impressed their forms upon the plates without the intervention of the photographer. Whether this is possible or not, it is not the intention of the present writer to discuss; and if he refers to similar pictures, but produced deliberately and by a trick, as "spirit photographs," it must not be taken as implying that genuine "spirit photographs" do not exist.

At the same time, he does not wish to appear to conceal his convictions on the point. Whether or not true "spirit photographs" can be made, he cannot say; it is notoriously difficult to prove a negative. But up to the present, at any rate, he has seen none which were produced under conditions precluding all possibility of trickery: while many of them have borne upon their face unmistak-

A PHOTOGRAPHIC DIGEST

able evidence of the particular device by which they were made.

Photographers will, the writer hopes, be interested in a review of the methods by which such appearances can be got without having recourse to the supernatural.

Believers in "spirit photography" also should find the summary of great value to them. Their published accounts nearly always give details of the steps that have been taken by them to ensure the genuine character of the results, which show that they consider it wise to take precautions. As those which they record, however, are generally of a very slight character, and quite insufficient in themselves to exclude trickery, they will welcome, no doubt, the publication of an account of the many methods that can be used, and of suggestions of the steps which must be taken if the *bona fide* character of these photographic results is to be attested by the exclusion of all opportunity to make them by illicit means.

It may be imagined that the first attempts to secure phantom images on a photograph were made by some system of double exposure. The plate, either before or after the main or ostensible exposure, was given a supplementary one, so that the "spirit" image developed up at the same time as the other image.

These can be done either by contact, printing under a transparency, or in the camera. A figure of the required kind is got ready, the camera is arranged so that the image falls on the part of the plate designed to receive it, and an exposure given. In order to leave as unexposed a plate, in other parts, as possible for the reception of the main picture, it may be advantageous to take the "phantom" with as dark a background as possible; so that if the plate were developed without any further exposure, nothing much beyond the figure itself would be recorded.

The result of such a double exposure, as most photographers know, for many have made it quite unintentionally, is that one figure appears semi-transparent, the details of the second being visible through the first. Unless we wish both figures to have this appearance more or less, we must see that the principal exposure is a very full one, and that the phantom image does not contain any details likely to show where they are not required.

The very obvious character of this method seems to have led a good many experimenters to believe that it is the only one by which what have been called "phantom" photographs can be obtained. So that investigators, at least those who have published accounts of what they have done, have been in the main content to take a few simple precautions against double exposure of this kind. It remains to be shown that besides this method there are others, which are quite as effective in their results, against which such precautions as have been referred to here are of no avail at all.

It is perfectly possible, by means of a little contrivance, to photograph a subject upon a plate in all definiteness, and at the same time to superimpose a ghostly image by means of the lens. In order to accomplish this a small mirror must be supported in front of the lens, in such a position that it reflects into the lens an image of some object which is placed at one side of the camera, while the mirror itself and its support are so small and in such a position that no sign of them appears upon the picture, nor do they cut off any appreciable part of the light going to form the main image.

The use of a microscope cover glass, silvered, has been suggested for the purpose. If it is not more than three-quarters of an inch in diameter and is placed a foot or eighteen inches in front of such a lens as is used for cabinet portraits, it will be found that all trace in the photograph of mirror and any slight rod used to support it will have vanished, while what it is arranged to reflect into the lens, if placed at the correct position to be in focus, will be superimposed in a vague, shadowy kind of way upon the more definite main image.

There is not much need to indicate precautions that should be taken against deception of this kind. The mirror itself must clearly be visible to the sitter in front of the lens; while an elaborate artificial arrangement of screens would be necessary to hide the subject of the second exposure from the sitter.

Devices have been suggested for projecting on to the plate while it is in the camera an enlarged image of a phantom, arranged as a micro-photograph. This would be very easy to do if it were worth the trouble; and it should be possible to do it without any seri-

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ous risk of detection, so long as the photographer's own camera were used.

The tiny little collodion images, known as micro-photographs, were described in *Photography* a little while ago. Such a picture, mounted on a minute lens of such a kind as to form an image of the picture on a plate when at the ordinary position in the camera, might be let into a small hole in the camera front, where it would be quite inconspicuous; and the light of the studio during the time that the preliminaries were being carried out would be imprinting the image on the plate.

A varied supply of the little pictures would be needed if this were to be done at all frequently; and in view of other and less costly or troublesome methods of achieving a similar result, it might not be worth the bother of arranging; but it must be mentioned in any summary of the possible means of achieving the end.

A number of what have been alleged to be "spirit photographs" have very evidently been made in a manner which dispenses with any double exposure. The principle of this method is a very simple one. If we make a positive transparency on glass and place it in contact with a sensitive plate in a printing frame or similar device, and then expose the transparency to light, every photographer knows that on development of the plate we shall obtain upon it a negative of whatever was on the transparency, from which we can make prints at will.

If now the transparency is placed in the dark slide first, before the plate is inserted, and the plate is laid on top of it, so that the image in the camera has to pass through the transparency before it can get to the negative, we shall get upon the plate the image of whatever we are photographing, but in addition to it we shall also get an image of what is on the transparency. If the latter is kept thin in character, and is suitably arranged, a very ghostlike effect can be obtained; and some of the most successful of the "spirit photographs" that have been shown, have revealed by little hints and markings that this was the plan used in their production.

As a general rule, the published descriptions of the precautions taken to prevent trickery do not indicate that those who took them were awake to this dodge. Much is said about buying fresh plates, initialling them, seeing them developed, examining the

camera, and so on; but it is noteworthy that in most cases the photographer has been allowed to load the dark slide himself, and to take out the plate; and there is never any mention that the absence of a transparency in the dark slide was a point that received specific attention.

Yet it is evident that this is a point which should have most careful observation, as it constitutes what is quite the easiest way of producing the kind of result to which this article refers.

How far the phenomena of phosphorescence have been utilized it is hard to say; but they lend themselves to tricks of the kind. For example, a card, or the inside bottom of a plate box, might receive a coating of luminous paint. On top of this a positive transparency of the desired phantom might be laid, an inch of magnesium ribbon burned above it, and the transparency removed. After the lapse of a very few minutes no image would be visible on the white surface of the bottom of the box, in any fairly well-lit dark room. Yet a plate left lying with its film upon the bottom for a very brief time would have an image impressed upon it of whatever was on the transparency.

Certain of the reactions which have been described under the title of "Catatype" might also be impressed into this service. In these a developable image is transferred to a sensitive plate by contact alone, without the intervention of light; and they are commended to the attention of those who wish to work out new mysteries or photographic puzzles. It is improbable, however, that they have so far been turned to any account in this direction, but the method seems to have great possibilities.

Such are some of the most likely methods to which unscrupulous persons might have recourse for the production of such photographs as are herein referred to. Without going so far as to say that the list is absolutely complete, it may at least be contended that anyone who has excluded all possible risk of any of these devices from being used has rendered the production of spurious spirit pictures very improbable. Certainly he will have done much more than has been done by any of those who have published the methods which they used, and which they thought were adequate.—W. H. Gerald Colbourn in *Photography*.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Some Photographic Advertising

One of our Exposition visitors was a hustling view man from a small city east of the Rockies. He came in to thank us for an article, published three or four years ago, covering some several forms of direct advertising. He told us about some of his own methods and they may interest such of our readers as are doing more or less of the view work of their town. When his state fair was in progress he made a large number of negatives. Borrowing, for the moment, a number of the awarded ribbons or badges he pinned them to a large card and photographed the lot. An enlargement from the negative was placed in his window with this wording beneath: "These were not awarded to us, but we 'took' them just the same." One day he took a picture of the post office with a large number of people in front of it. This was enlarged and placed in his window with a notice reading something like this: "We made this at nine this morning. If your picture is included, come in and get a free copy, post card size, as a memento." Another time he took a picture of Main Street from both ends with the street directly in the middle. By double printing he secured an enlargement showing the view as if one side of the street had been turned end for end. In other words, the right hand side of the picture represented the south side of the street looking east while the other side represented the same side of the street looking west. This was placed in the window with a card bearing the query: "Which way was the camera pointed when this view was taken?" By getting the driver to lie down in the bed of the wagon and allow his team to gallop wildly past the camera he secured a good representation of a runaway passing a certain busy corner. This was labeled: "Did you see the runaway this morning? We caught them before they had gone a block." A burning business building gave

him an opportunity of showing how quickly he could work, through having an enlargement on display, made from the wet negative, while the fire company was still playing water on the blaze. This was titled: "If you want anything photographed before it is too late, come to us." These several examples will suffice to show that a little thought will give one ideas almost without number that can be worked out, ideas that will keep the photographer and his work before his fellow townsmen; and that is the main object in advertising, which these schemes really are.

Use Pure Sulphite of Soda

Sulphite of soda is sold in two forms, crystals and anhydrous, the latter form resulting from subjecting the crystals to a heat of two hundred and twelve degrees Fahrenheit, and it is this last that is the most advisable to purchase. The first form, if allowed to dry out, changes to sulphate, the process beginning with a white coating on the surface of the crystals. As air is absorbed, the anhydrous form will also undergo a similar change, but more slowly. For this reason the supply should be kept in bottles or tins made as air tight as possible. In solution, the change to sulphate is even more rapid, depending upon the amount of air contained in the water used in making up and the amount of surface exposed. This gives us the reason why solutions of this salt should be made up fresh at frequent intervals; and, using the anhydrous form will facilitate so doing.

While we are not absolutely sure of even the anhydrous, this form is practically always of a high quality and free from the adulteration of other kinds of soda which sometimes, through lack of thoroughness in manufacture, find a place in the composition of the crystals, particularly those sold in bulk at a low price. Some workers prefer the crystals, buying a fine quality known as the recrystallized, be-

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cause any change to sulphate at once proclaims itself by the white powder formed on the surface. This last, when it appears, can be easily rinsed off before using, a sheet of thin paper on the scale pan permitting the weighing of the wet crystals with the same ease as the dry. The sulphate does no particular harm except as it has a slight retarding effect in a developer, but as the amount of sulphite is reduced in accordance with the sulphate formed, the effectiveness of the solution made up of partially changed sulphite is decreased accordingly. In developing, the result is increased color in the negative and a more rapid discoloration of the developer. In the well known acid fixing bath used for developing papers the matter is a more serious one. Adding acid only to a hypo solution would result in decomposition of the hypo and sulphurization of the silver in the prints, this last taking the form of an insoluble silver salt which is not stable, but yet cannot be removed by washing. If the sulphite added is not effective, more or less of this trouble results. Sulphite of soda combines with the acid in the fixing bath and forms a sulphurous acid gas that prevents this decomposition of the hypo and sulphurization of the print. As the proper fixation of a print is hardly observable as it is in the case of a plate, a good plan is to occasionally test one's fixing bath by inserting a strip of unexposed plate, such strips being easily cut from any doubtful plates one may have on hand, using one of the cheap glass cutters for sale at any hardware or household goods store.

The Metal Parts of a Camera

Now that the small cameras are becoming so popular, the various forms of enlarging cameras, ranging from the simple box-like arrangement to the elaborate equipment that includes what is practically a large view camera are in demand and attention to the metal fittings becomes more worthy of consideration. When the most common sources of trouble are grouped together one will find that troubles with the metal fittings resolve themselves into a matter of the thread on the various parts that carry milled nuts or that engage some other portion of the fittings, these nuts and their threads, and the several forms of screws that bind or hold other parts in place. As a rule, the threads are

small and if force is used in screwing any two parts together when the threads are not perfectly and squarely engaged, one or both will be jammed apart. Once this happens the only way to repair the damage and assure satisfactory future working of the parts is to replace the part with a new bolt, rod or nut, as the case may be. The expense of doing this is generally out of all proportion to the seeming value of the part for the reason that a special thread must be cut on the new piece, it being practically impossible for a repair man to keep on hand a supply of the necessary taps and dies to cut the threads of endless variety of pitch and sizes used by the various manufacturers. With screws that work too easily and those that work too hard or refuse to work at all, the matter is not so serious. A screw that has lost its bite can generally be made to fit more snugly by giving its end a smart tap with a light hammer. This plan is usually satisfactory with small, unpainted screws, such as are used in shutter cases and the like. In the case of a binding nut running on a bolt or rod, a few smart taps on one side of the nut will cause it to run tighter because the hole is made somewhat oval instead of round and the thread bites well on two sides. Where a binding nut, through being loose, is in danger of dropping off and becoming lost, a few taps of a hammer on the end of the bolt will upset the first thread and cause it to hold the nut from unscrewing past the end. A nut that works too tight can be made to work smooth by applying a little oil and working it back and forth a few times. If rust causes the trouble, a little graphite, such as the dust of a pencil lead, can be mixed with the oil. Wood screws, such as are used to hold a metal plate to some wooden portion, often become loose. They should be removed, a soft piece of wood, such as the stem of a match, roughly pointed to fit the hole, given a drop of glue, inserted and cut off flush with the surface of the wood. If the screw is returned it will be found to fit snug and tight, in fact, it may be necessary to use an awl to prepare a hole for it as was done in the original work. Such screws should be either brass or brass, nickel plated, so that they will not rust and become too fast to remove. Where iron screws are used it is well to give them a slight rub with tallow before returning them to their place.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Officers of the I. P. A.

F. B. Hinman, President, Room 237, Union Depot, Denver, Colo.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality, a letter "X" will be placed after the member's number, indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

James B. Warner, Director Stereoscopic Division, 413-415 Call Building, San Francisco.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

George E. Moulthroppe, Director Lantern Slide Division, Bristol, Conn.

Edward B. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

MEXICO.

Vice-President—Jose Ramos, Zitacuaro, Michoacan, Mexico.

Album Director—J. Jesus Martinez, Ap. 5, Morelia, Mich., Mexico.

CANADA.

Album Director—R. W. Franklin, Druid, Sask., Canada.

STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—A. E. Davies, 2954 Linden Ave., Berkeley.

Idaho—Eugene Clifford, Weippe.

Iowa—Harry B. Nolte, Algona.

Kansas—H. H. Gill, Hays City.

Missouri—J. F. Peters, Room 210, Union Station, St. Louis.

New York—Louis R. Murray, 21 Clark St., Ogdensburg.

Oregon—F. L. Derby, La Fayette.

Texas—Emmett L. Lovett, Roby.

Wisconsin—F. W. Freitag, 500 Monument Square, Racine.

Mississippi—George W. Askew, Jr., 211 34th Ave., Meridian.

NEW MEMBERS

4134—Wm. J. Douglass, P. O. Box 395, Missouri Valley, Iowa.

Post cards, developing paper, of miscellaneous outdoor photography; for speed work and child studies. Post cards only. Class 1.

4135—Chas. Ulrickson, 4222 No. Gove St., Tacoma, Wash.
Class 3.

4136—C. E. Fey, P. O. Box 612, Laramie, Wyo. 3¼x5½ and smaller, developing papers, of landscapes, Rocky Mountain scenery, and construction; for anything good. Class 1.

4137—H. A. Larkin, Hartman, Colo.

Class 2.

4138—Everett S. Fuller, 927 Franklin St., Melrose Highlands, Mass.

Class 2.

4139—Nat. L. Dewell, Woodrow, Fla.

3¼x4¼ and 5x7, various papers, of 300 views of native life and technical views of Panama Canal, also 50 Florida scenes; for scenery of national interest, animal life and unusual happenings. Lantern slides or prints.

Class 1.

4140—Paul Joers, 908 7th St., Milwaukee, Wis.

Class 2.

4141—R. M. Croall, 1113 Centre Ave. N. W., Calgary, Canada.

Class 2.

4142—H. A. Lakin, Holly, Colo.

3¼x4¼, 3¼x5½, 5x7, 8x10, developing paper, of portraits, landscapes, and views; for the same. Class 1.

4143—Miss Jessie A. Swan, 234 East Orleans St., Paxton, Ill.

Up to 4x5, various papers, of views, etc.; for anything of interest. Prints only. Class 1.

4144—B. A. Backers, 26 Smith St., Charleston, S. C.

5x7, developing and printing-out papers, of draped and undraped studies of nude; for the same. Class 1. All exchanges answered.

4145—H. L. Murry, Montpelier, Ind.

Post cards of local scenes; for anything of interest. Post cards only. Class 1.

RENEWALS

2988—H. M. Suter, 3005 W. North Ave., Baltimore, Md.

3¼x4¼ and 4x5, developing paper, of historical buildings and locations, also picturesque and unique subjects; for prints or unmounted and unvarnished lantern slides. First-class work or subject to rejection.

Class 1.

3976—Chas. C. MacKay, 111 Beck Ave., Waterloo, Iowa.

Class 2.

CHANGES OF ADDRESS

1924—Ernest J. Fox, 13 Jenkintown Road, Weldon, Pa.

(Was Remlu.)

2810—C. L. Fuller, 214 Perry St., Sioux City, Iowa.

(Was 1101 West 3d St.)

3742—S. H. Nichols, Box 241, McCloud, Cal.

(Was Hayward, Cal.)

3905—Hans Bothe, 3901 22d St., San Francisco, Cal.

(Was Manila, P. I.) Any members desiring to write to me concerning an exchange of pictures shall receive prompt answer upon my return to the States.

4018—C. A. West, 619 South 1st East, Salt Lake, Utah.

(Was 112 No. State St.)

4019—J. H. Pendleton, Richmond, Utah.

(Was Logan, Utah.)

4103—O. D. Ellis, 1308 North 12th St., Boise, Idaho.

(Was 1308 Washington St.)

CLUB NEWS AND NOTES

Club Secretaries and others will oblige by
sending us reports for this Department

A Diffused Focus Method

At the meeting of the Southern California Camera Club on the fourth floor of the Lyceum Theater Building, Los Angeles, October twenty-first, the following new members were admitted to membership in the club: Fred H. McClure, W. A. Hudson, Frank Shirley, L. A. Olsen, Clarence C. Ball, Wm. E. Fildew, W. C. Sawyer, J. P. Pohle, Jos. C. Harris, F. H. Taber, E. L. Hogan, Earl V. Lewis, Webster D. Smith, Martin L. Wolver. A vote of thanks was tendered Mr. Pohle for the use of his studio outfit and camera, and Mr. Taber was tendered a vote of thanks for the use of a Century enlarging outfit. Keith Koons explained a method of producing diffused focus negatives with an anastigmat lens of the unsymmetrical type, by the simple expedient of removing one section of the complete lens. He pointed out that this method is not applicable to all lenses, even of the unsymmetrical type. With an old f-5 Unar, the back half of the lens gave results very much like those with a single lens, without perfect optical corrections.

Large Lens Gives Atmospheric Effect

Thursday, the regular meeting night of the Southern California Camera Club, was occupied, October twenty-eighth, with a regular old-fashioned Hallowe'en entertainment, involving apple ducking, "fish pond," music, "eats," hot coffee and dancing. As the entertainment was in the nature of a housewarming to offer an opportunity to get acquainted, only ten cents admission was charged; however, the hundred who were present were unanimous in agreeing that it was "worth a dollar." Among the new pictures that hung on the walls of the clubrooms were some atmospheric effects by Mrs. C. T. Dodds. Mrs. Dodds uses a reflecting camera with a long-focus anastigmat of large aperture. This lens gives both full exposure and just enough diffusion in the background to give atmospheric rendering that would not

be obtained with a smaller stop. Mrs. Dodds also finds that the long focus gives a better pictorial rendering of perspective than the usual shorter focus lens.

Proposed Lecture Tour

Henry Berger, Jr., and Frank Ives Jones, two well-known workers of Portland, Oregon, are making tentative arrangements for a proposed tour to exhibit and lecture upon their beautiful examples of color photography, possibly the largest such collection in this country. Their work covers the Columbia River Gorge and its highway through the Cascade Mountains, Portland, the Rose City, by day and by night, wild flowers of the Pacific Northwest, Crater Lake, great glaciers, forests, waterfalls, and the snow-capped mountains, Hood, Adams, Jefferson, St. Helens, Rainer, Three Sisters and lesser peaks. Prominent editors, educators and others who have seen their work praise it in the most unstinted manner. We wish these gentlemen all success, as the skill and effort they have put into their work should entitle them to all they may desire in that direction.

Eleventh Annual Wanamaker Exhibition

You are invited to send your pictures to the Eleventh Annual Exhibition of Pictorial Photographs, March first to seventeenth, 1916, in Philadelphia, announcement of which will be found in our advertising pages.

Eighteen cash prizes will be awarded; and, owing to the care and attention always given by those having the matter in hand, our readers can feel that this exhibition should have their best attention.

Pictures may be of any size, from 5x7 to 14x17 inches. Small pictures should be enlarged to 6½x8½ or 8x10 inches. They must be mounted, but should not be framed, and should have plainly written on the back, title of the picture, name and address of exhibitor, lens and material used, and other statements of interest, mentioned on the label which our

CLUB NEWS AND NOTES

camera shop furnishes. In addition to the label, the exhibitor must make a list of his pictures on a card suitable for a card-index catalogue. These cards will be furnished on application.

Exhibitors may enter as many pictures as they wish. The judges may decide not to hang more than ten from any exhibitor. Quality of work will be considered. In case there are more pictures than can be exhibited properly, the judges have authority to decide the arrangement or grouping of the meritorious pictures, and the omission of those of only ordinary value.

For labels and further information address Photographic Exhibition Bureau, Main Floor, Juniper Street, John Wanamaker, Philadelphia.

Fall Exhibit of Photography

The Photographers' Association of the Cincinnati Chamber of Commerce held, during the early part of October, in the exhibition room of the Union Central Building, a most successful exhibition of portrait, home portrait and commercial work. In addition to the six hundred and fifty beautiful examples of modern photography, there was the celebrated Landy collection of historic photographs and quite a number of old-time pictures loaned by local people desirous of contributing to the interest of the display. In connection with the undertaking a letter was received from John I. Hoffman, General Secretary of the Photographers' Association of America, who said: "I believe that you Cincinnati men have the best local organization of any in the country. I have been working with the Washington photographers since I came here, a little over twelve months ago, and have not been able to come anywhere near the success that you have reached."

The officers of the Photographers' Association of the Chamber of Commerce are: R. E. Carl, of Young & Carl, President; William Schuster, Vice President; Frederick DeLisle, Corresponding Secretary-Treasurer; H. Serkowich, Managing Secretary. Board of Chairmen: J. G. McIan, Legislation and Welfare; Charles H. Groene of Rombach & Groene, Entertainment; J. Anthony Bill, Membership; J. Albert Jones, Publicity; Michael A. Schmitt of Schmitt Brothers, Fi-

nance. Other members are: The Benjamin Studio, F. H. Somers, C. H. Longley of C. H. Longley & Company, C. A. Gillam of the Barnum Studio, Louis Steman, R. J. McFee of Clegg, McFee & Company, L. F. Redman, B. Moser of Moser & Son, J. F. Strouse of the Barnes-Crosby Company, C. F. Widman of Meyer & Widman, Paul Mueller, Harriet Edna Oonk and William B. Poynter.

The Pittsburg Salon

The Photographic Section of the Academy of Science and Art of Pittsburg, announces an Annual Salon of American Pictorial Photography, to be held in Galleries L and M of the Carnegie Institute, Pittsburg, Pennsylvania, March second to thirty-first, 1916. In making the above announcement the Salon Committee desires to acquaint American Pictorialists with several features which have been incorporated in the 1916 Salon that distinguish it from all its predecessors.

The Section has brought into being a Salon membership composed of twenty-two well-known pictorialists who are required to furnish each year a stated number of prints on the occasion of the annual exhibition, membership being retained only as long as these obligations are fulfilled. New members will be chosen yearly from among the general exhibitors, when, in the opinion of the Salon Committee, such action is warranted.

Not more than six prints will be accepted from one exhibitor, although any number of prints may be submitted.

Prints must be mounted on light colored, preferably white or cream tinted mounts, with liberal margins, but must not be framed or glazed.

Prints which have been previously exhibited in the United States are not eligible, but this does not apply to those shown at camera club interchanges of the current season.

Every print submitted will receive equal consideration by a competent Committee of Selection and prospective exhibitors will confer a favor on the Salon Committee by making their requests for entry blanks and full particulars regarding the Salon to C. E. Beeson, nineteenth floor, Frick Building, Pittsburg, Pennsylvania, as early as possible. Last day of entry is February tenth, 1916.

NOTES AND COMMENT

**A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest**

Reported by William Wolfe

F. M. Braddock, in charge of the Photographic Department of the Holden Drug Company, Stockton, was married in San Francisco, September eighteenth. He came to see the Fair and decided it was Wright. The newlyweds motored to Del Monte for their honeymoon.

Grace Hubley expects to close her Sacramento studio some time early in 1916.

The new entrance to Bert Hodson's studio in Sacramento improves its appearance very much.

Rad Coover is doing some very fine work in his Stockton studio.

W. W. Still of Reno has some amateur finishing plant.

Merick Reynolds of Los Angeles is spending three months in New York. Will get back about January first.

C. R. Miller of Miller Photo Company was here recently to buy a complete movie outfit. He opened the Orpheus Theatre in Klamath Falls, November fifteenth.

Business was found very good throughout the northwest with Probus products as popular as ever.

Mr. Lane, Hirsch & Kaiser's shipping clerk, has been busy getting out holiday orders.

A. C. Henline has moved into his new ground floor studio on Main Street, Klamath Falls, Oregon.

Well Worth Attention

The photographer will do well to cash in on his efforts in the taking of photographs by having suitable ones made into post cards of local views as well as for advertising purposes, of which unexcelled specimens are being distributed by Curt Teich & Company, 1745 Irving Park Boulevard, Chicago. This firm also manufactures something unusual and unique for advertising purposes in the line of colored blotters and ad envelopes, which, the same as advertising post cards, are being used liberally by business enter-

prises of various descriptions. Full detailed information, together with pleasing prices, will be sent upon your request for samples by Curt Teich & Company.

Medals Awarded

The Simplex Photo Products Company were highly honored in the matter of awards at both the Panama-Pacific and the Panama-California Expositions. At the former they received a gold medal for Alamo Cameras and one for Multi-Speed Shutters; a silver medal for Multi-Exposure Camera, one for collective exhibit and a bronze medal for the Baby Simplex Projector. At San Diego they also received a gold medal on the Alamo Camera. This is a most handsome showing and the Simplex Photo Products Company are to be congratulated on the success achieved by their excellent line of goods.

Enlarging With The M-Shaped Tube

W. A. Rockwood, Convention Manager, Ansco Company, writing in *The Output*, says, in part: "The M-Shaped Cooper Hewitt tube which has recently been developed by the Cooper Hewitt Electric Company, has been used for making all the convention prints to be exhibited this year by the Ansco Company, and it has given extreme satisfaction. This lamp does away with condensers, which is quite an item, especially when it is necessary to use 8x10 negatives. When working with enlarging Cyko, a lens working at f-6, and diffusing the light with two ground glasses, an exposure can be made in from three to twelve seconds.

The M-shaped tube has the advantage over all other lights in that it is steady and rich in the actinic rays. To obtain an even distribution of light, it is only necessary to place two pieces of ground glass within a half inch of the negative and within three and one-half inches of the light. Another particular advantage is that the light can be focused without any strain on the eye. This lamp will be found useful to any photog-

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rapher who is desirous of getting perfect enlargements and uniform results, and will be found the most satisfactory system for enlarging.

A Wise Appointment

Frank N. Wallace, chief deputy under Mr. Douglass, the first incumbent of the office, has been appointed State Entomologist of Indiana. No better selection could have been made as Mr. Wallace is not only a deep student of all things entomological, but he is a photographer of exceptional skill and experience. With this gentleman in charge, excellent photographic reproductions, such as characterized the reports gotten out by Mr. Douglass, will no doubt add much to the value of the publications going out from his office.

"Photo-Items"

There has just reached our desk the first issue of a handsome little trade publication with the above title that is being issued by Herbert & Huesgen Company of 18 East Forty-second Street, New York City. In the leading editorial it is explained that "The object of *Photo Items* is to acquaint the patrons of Herbert & Huesgen Company, past, present and prospective, with the nature and character of its business, with its present standing in the photographic industry, and with its future plans for catering to the needs of all amateur photographers, from the veriest beginner to the most advanced among them." Such of our readers as may desire to receive a copy of this neat little house organ will be favored therewith by writing the publishers, as advised above.

A New Enlarging Lantern

There is, in the front advertising section, an announcement of a new combination enlarging lantern and stereopticon that we believe is an eminently satisfactory piece of apparatus. It is being put on the market by a firm that is experienced in the manufacture of electric, photographic, optical and chemical appliances and a firm that is equipped with the necessary machinery and workmen to turn out apparatus of the highest quality at a most reasonable price. Our readers should not neglect to send for descriptive booklet, doing so at once, as the season for enlarging and projecting work is even now well under way. Do this before the matter is overlooked, ad-

ressing the Acme Enlarging Lantern Company, Incorporated, 81 Nassau Street, New York City.

Send For Them At Once

In another part of this magazine will be found a full page announcement of the new "Argotone" paper, the latest product of the Defender Photo Supply Company, Argo Park, Rochester, New York. There are seven grades, including a beautiful buff diagonal linen surface; and, the variety of tones easily obtainable, if desired, makes the paper one that suggests great possibilities to the worker. The firm offers to send specimen black and sepia prints and a sample package upon request and our readers should not neglect this opportunity of acquainting themselves with a very fine new developing paper. Mention their announcement and ask for the samples, doing so before it is overlooked.

A Big List of Bargains

One of the largest bargain sheets of new and second-hand cameras, lenses and supplies of all kinds has just been issued by the Mission Photo Supply Company, 3090 Sixteenth Street, San Francisco. The list is being sent free for the asking. Some real bargains are offered in staple goods. The Mission Photo Supply Company is having a clean up sale as they want a clean, fresh stock for 1916. Send for the big bargain sheet to-day.

A New Line of Cameras

Burke & James, in their advertisement this month, introduce to the public for the first time, the new Rexo Cameras. They advise: "This is a new line of instruments into which we have put our best brains, labor and materials. These cameras open vertically, have fully rounded ends, rigid U-shaped standard, new type finders which confine view to the objects actually included in the picture, rack and pinion for fine focusing, self aligning scale, new concealed spool holding device, no spool centers to pull out, quick loading, sure locking back fitted with a film aligning plate which holds the entire length of the exposed film in the exact focal plane without curl or buckle. They are supplied with either a rapid rectilinear or an anastigmat lens and a choice of several shutters. They are constructed of reinforced aluminum covered with genuine seal grain leather.

CAMERA CRAFT

Beauty, convenience and efficiency have been happily combined in the new Rexo Folding Cameras. In their construction we have endeavored to make a line of cameras which will merit the name Rexo—Monarch of the camera world."

A Valuable Contribution

The October number of the *Journal of The Franklin Institute* has, as its leading article, a most valuable contribution to the literature of photography and kindred arts, entitled "Development and Recent Advances of the Techno-graphic Arts," by Louis Edward Levy, Photo-Chemist and member of the Institute. A reproduction of the first intaglio plate made by Niepce in 1824, portraits of Niepce, Daguerre, Mongo Ponton, Poietevin, Fox Talbot and a color chart and successive impressions covering three-color work, furnish seven full page illustrations that add greatly to the value of the paper. Such of our readers as are interested in the early history of photography, dating from the efforts of that French lithographer, Niepce, should read this admirable paper. Copies of the "Journal" can be obtained by addressing The Franklin Institute, 15 South Seventh Street, Philadelphia, Pennsylvania, enclosing fifty cents and specifying that it is the October number that is wanted.

Illinois College of Photography

Jesse B. Whitcraft, of Hicksville, Ohio, and Mrs. Mamie Schiller, of this city, were united in marriage September second. After completing his course in photography, the groom expects to enter into business for himself.

A. P. Hughes has located at Elkhart Lake, Wisconsin, where he is engaged in home-portrait work.

Messrs. K. W. Johnson, B. V. Johnson and Claude Fenderson, of the B. C. P. E., left a short time ago for Savannah, Georgia. The former will open an engraving plant at that place, and will be assisted by Mr. Johnson and Mr. Fenderson.

News has been received of the "match" between Jas. A. McCarthy, of 1906, and the daughter of Dr. and Mrs. F. H. Boynton, of Chariton, Iowa. Mr. McCarthy is conducting a studio in Chariton, and we wish him success, both in business and in his new venture.

Miss Evelyn M. Fox, who recently left for

Canada, reports that she has accepted a position in the Cortland Studio at Calgary, Ontario, and is doing nicely.

Two automobiles have been added to the faculty equipment the past month. Superintendent Cook purchased an Overland, and President Bissell a Dodge. So far they have avoided all collisions.

An Attractive Novelty

On another page will be found a particularly timely and interesting announcement of a Christmas gift that any photographer can bestow with every assurance of not only displaying good taste but of pleasing the recipient. This is the V. P. Memo Book, holding sixteen small prints, and it is surprising how effective this beautiful little album can be made by slipping the required number of selected prints under the neat mats that form the leaves. Not only is it a desirable gift when filled, as suggested, but anyone wishing to make an equally acceptable gift to a photographic friend can hardly do better than bestow one or more of these excellent little albums. They can be obtained from practically every photographic dealer, for the reason that the manufacturers, the Housh Company, of Boston, make such a full line of albums, mounts, calendars and the like of such fine quality that they are generally stocked.

The Austin Association

The Professional Photographers' Association of Austin, which was recently organized, is one of the first clubs to be formed by photographers in the South or Southwest. It has for its object the bettering of the conditions of those engaged in this branch of business from both a professional and pleasure standpoint.

It is the intention of the members of the Association to ask the artists and moving picture owners to join the club in order that a strong social spirit and a feeling of fraternalism may be developed between those engaged in photography or kindred lines of work. Already a large membership has been secured, consisting of practically all of the photographers in the city. The officers of the organization are: Felix A. Raymer, President; Carl Christianson, Vice-President; Thomas C. Jensen, Secretary, and Mrs. Martyn Elliott, Treasurer.—*Austin American*.





